PB89-164248

Toxic Chemical Release Inventory Reporting Form R and Instructions. (Revised 1988 Version) Section 313 of the Emergency Planning and Community Right-to-Know Act

ICF Technology, Inc., Fairfax, VA

Prepared for

Environmental Protection Agency, Washington, DC

Jan 89

U.S. Department of Commerce
National Technical Information Service
NTIS

PB89-164248

United States
Environmental Protection
Agency

Office of Toxic
Substances
Washington, D.C. 20460

Revised January 1989
EPA 560/4-88-005

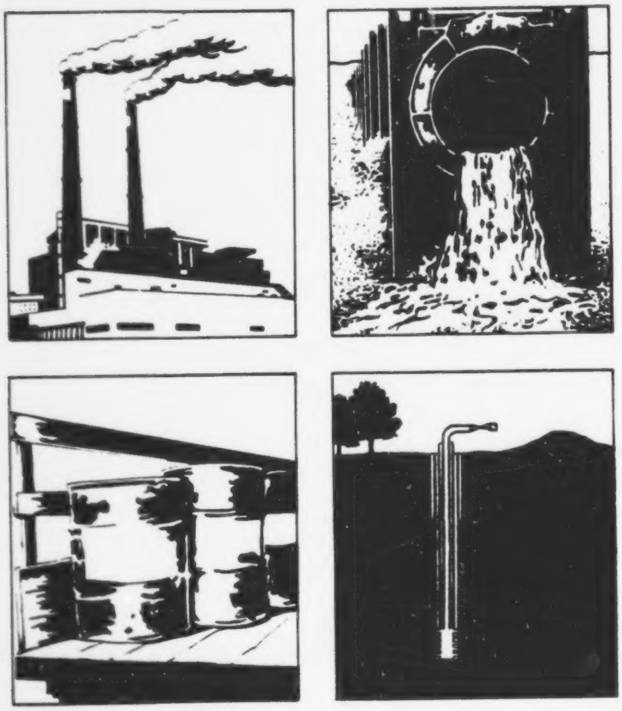
EPA

Toxic Chemical Release Inventory Reporting Form R and Instructions

Revised 1988 Version

Section 313

of the Emergency Planning and
Community Right-to-Know Act
(Title III of the Superfund Amendments
and Reauthorization Act of 1986)



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U.S. DEPARTMENT OF COMMERCE
NATIONAL TECHNICAL INFORMATION SERVICE
SPRINGFIELD, VA. 22161

EPA FORM R SUBMISSION CHECKLIST

Before you submit your facility's Form R submission, please review the following checklist to make sure that your report is complete and correct.

Have you:

[ ] Prepared a complete, separate, and independent Form R for each chemical including Parts I, II, III, and IV (pages 1-5)?

[ ] Provided an original signature on Part I, Section 2 for each chemical submission?

[ ] Entered the chemical name and CAS number in Part III, Sections 1.2 and 1.3 (page 3) exactly as they appear on the section 313 chemical list?

[ ] Checked that "NA" is entered, as appropriate, for all items that do not apply to your facility?

[ ] Included your facility's latitude and longitude on Part I, Section 3.6?

[ ] Made a copy of each report to be submitted to the state and a copy of each report for your own files?

If you are claiming a trade secret, have you:

[ ] Provided two complete Form Rs:

- ☐ One that identifies the chemical ("unsanitized"); and
- ☐ One that provides a generic chemical identity ("sanitized")?

[ ] Provided two complete trade secret substantiation forms:

- ☐ One that identifies the chemical ("unsanitized"); and
- ☐ One that provides a generic chemical identity ("sanitized")?

Both Form Rs must include Parts I, II, III, and IV; both must contain an original signature.

[ ] Checked that the sanitized and unsanitized versions are correctly identified in Part I, Section 1.2?

Submit Form R by July 1 to EPA and the appropriate agency in your State.

50272-101

REPORT DOCUMENTATION PAGE

1. REPORT NO.
EPA 560/4-88-005

2.

3. Recipient's Accession No.
PB89 164248/AS

4. Title and Subtitle
Toxic Chemical Release Inventory Reporting Form R & Instructions

5. Report Date
Revised January 1989

6.

7. Author(s)
Office of Toxic Substanes

8. Performing Organization Rept. No.

9. Performing Organization Name and Address
ICF
9300 Lee Highway
Fairfax, VA. 22031

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G)

12. Sponsoring Organization Name and Address
Office of Toxic Substances
Environmental Protection Agency
401 M St. S.W.
Washington, D.C. 20460

13. Type of Report & Period Covered

14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

Submission of EPA Form R, the Toxic Chemical Release Inventory Reporting Form, is required by section 313 of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986). Public Law 99-499. The information contained in Form R constitutes a "report," and the submission of a report to the appropriate authorities constitutes "reporting." Reporting is required to provide the public with information on the release of listed toxic chemicals from your facility to the environment during the past year. Facilities must report the quantities of both routine and accidental releases of listed chemicals, as well as the maximum amount of the listed chemical ever onsite during the calendar year and the amount contained in wastes transferred off-site.

17. Document Analysis a. Descriptors

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement:

19. Security Class (This Report)

20. Security Class (This Page)

21. No. of Pages
89

22. Price
A05/15.95/$6.95

(See ANSI–Z39.18) *See Instructions on Reverse* OPTIONAL FORM 272 (4–77)

Important Changes in the Section 313 Requirements for Reporting Year 1988

Reporting requirements for calendar year 1988 reports (due July 1, 1989), differ from 1987 requirements in three respects:

(1) The 1988 threshold for manufacturing or processing a covered toxic chemical is 50,000 pounds (the threshold was 75,000 pounds for reporting year 1987). You must use this threshold in determining whether you are subject to the reporting requirements. (See "Threshold Determinations," p.7, for more information.)

(2) Latitude and logitude information must be included in the report. (See Part I, Section 3.6, p. 13 and Appendix B for more information).

(3) The following chemicals that were covered for the 1987 year are not covered for the 1988 reporting year:

	CAS Number
C.I. Acid Blue 9 disodium salt	2650-18-2
C.I. Acid Blue 9 diammonium salt	3844-45-9

Reporting is not required for these chemicals (see the Final Rule October 7, 1988 (53 FR 23108) for more information).

Supplier Notification Begins in 1989

With the first shipment of product in calendar year 1989, suppliers must provide notice to their customers regarding all mixtures or trade name products that contain listed toxic chemicals. The notice must be attached to the Material Safety Data Sheets (MSDSs). The data in the notice must be used for threshold and release calculations beginning with reports submitted for calendar year 1989 due July 1, 1990. The notification may be used for threshold and release calculations for calendar year 1988, if the notification information is the best available information at the facility. (See "Mixture and Trade Name Products, Supplier Notification," p. 8 for more information.)

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Form R

GENERAL INFORMATION

Submission of EPA Form R, the Toxic Chemical Release Inventory Reporting Form, is required by section 313 of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986), Public Law 99-499. The information contained in Form R constitutes a "report," and the submission of a report to the appropriate authorities constitutes "reporting." Reporting is required to provide the public with information on the release of listed toxic chemicals from your facility to the environment during the past year. Facilities must report the quantities of both routine and accidental releases of listed chemicals, as well as the maximum amount of the listed chemical ever on-site during the calendar year and the amount contained in wastes transferred off-site.

A completed Form R must be submitted for each toxic chemical manufactured, processed, or otherwise used at each covered facility as prescribed in the reporting rule in 40 CFR Part 372 (published February 16, 1988 in the Federal Register). These instructions supplement and elaborate on the requirements in the reporting rule. (See Appendix G for a copy of the regulations). Together with the reporting rule, they constitute the reporting requirements. All references in these instructions are to sections in the reporting rule unless otherwise indicated.

HOW TO ASSEMBLE A COMPLETE REPORT

The Toxic Chemical Release Reporting Form, EPA Form R, consists of four parts:

- ☐ Part I, Facility Identification Information (page 1);
- ☐ Part II, Off-Site Locations to Which Toxic Chemicals are Transferred in Wastes (page 2);
- ☐ Part III, Chemical-Specific Information (pages 3 and 4); and
- ☐ Part IV, Supplemental Information (page 5).

Form R is designed so that most of the information required in Part I and all of the information required in Part II can be filled out and then photocopied and attached to each chemical-specific report. Part I may be a photostatic copy as long as it has an original signature on the certification statement and the trade secret designation is appropriate. You have the option to complete Part II for only the off-site locations that apply to the individual chemical cited in the report or you can list all off-site locations that apply to all chemicals being reported and include a photostatic copy of this Part II with each individual report. Part III must be completed separately for each chemical. Part IV provides additional space, if needed, to complete the information required by the preceding sections of the form. Include Part IV in your report, even if it is blank.

A complete report for any listed toxic chemical that is not claimed trade secret consists of the following completed parts:

- ☐ Part I with an original signature on the certification statement (Section 2);
- ☐ Part II;
- ☐ Part III (Section 8 is optional); and
- ☐ Part IV (even if blank).

Staple the pages of each report together. Do not submit supporting documentation or other materials; such data will not be processed with your Form R submission.

TRADE SECRET CLAIMS

For any chemical whose identity is claimed as a trade secret you must submit to EPA two versions of the form as prescribed in 40 CFR Part 350, published July 29, 1988 in the Federal Register (53 FR 28772). Use the order form in this document to obtain a copy of the rule and substantiation form. One version identifies the chemical; the second version does not identify the chemical specifically, but provides instead a generic identity. Only this latter version will be available to the public. For further explanation of the trade-secret provisions, see the instructions below for Part I, Sections 1.1 and 1.2 and Part III, Sections 1.1-1.4.

A complete report for a toxic chemical claimed trade secret includes all of the above items plus the following:

- ☐ A completed Form R report including the chemical identity (staple the pages together);
- ☐ A "sanitized" version of a completed Form R report in which the chemical identity items (Part III, Sections 1.2 and 1.3) have been left blank but in which a generic chemical name has been supplied (Part III, Section 1.4) (staple the pages together);
- ☐ A completed trade secret substantiation form (staple the pages together);
- ☐ A "sanitized" version of the trade secret substantiation form (staple the pages together).

Securely fasten all four reports together.

RECORDKEEPING

You must keep a copy of each report. In addition, you must keep the supporting materials used to develop the information contained in the report. These records must be kept at the facility for a period of three years from the date of the submission and must be readily available for inspection by EPA.

WHEN THE REPORT MUST BE SUBMITTED

The report for any calendar year must be submitted on or before July 1 of the following year (e.g., the report for calendar year 1988, January-December, must be submitted on or before July 1, 1989).

VOLUNTARY REVISION OF A PREVIOUS SUBMISSION

If you are making a voluntary revision to a previous Form R submission, enter "Voluntary Revision" in the space marked "This space for your optional use" on all five pages of the form. If you have obtained the Document Control Number (DCN) of the original submission from EPA, enter that number also in this space. You must include the facility and chemical names on the form exactly as they were reported previously to enable tracking of the original data. If your facility's name has changed since the original submission, you must enter the facility name which appeared in the original submission; also indicate the new facility name in the optional use space on page 1 of Form R only. You must complete the entire form for a voluntary revision and send a copy of the revision to the state. Submissions for the next calendar year are not considered revisions of a previous year's data.

WHERE TO SEND THE REPORT

Form R submissions must be sent to both EPA and the State. Send EPA reports by mail to:

U.S. Environmental Protection Agency
P.O. Box 70266
Washington, D.C. 20024-0266
Attn: Toxic Chemical Release Inventory

Hand-delivered submissions only should be addressed to:

EPA Title III Reporting Center
470 L'Enfant Plaza East
Suite 7103, SW
Washington, DC 20024
Attn: Toxic Chemical Release Inventory

In addition, you must send a copy of the report to the State in which the facility is located ("State" refers to: State of the U.S., the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Northern Mariana Islands, and any other territory or possession over which the U.S. has jurisdiction). Refer to Appendix E (page 62) for the appropriate State address for your facility. If your facility is located on Indian land, send a copy to the Chief Executive Officer of the applicable Indian tribe, unless the tribe has entered into a cooperative agreement with the State. In this case, Form R submissions should be sent to the entity designated in the cooperative agreement to receive the forms.

Copies of the report sent to the State or Indian tribe should be the "sanitized," non-trade-secret version of the report, unless the State specifically requires otherwise. The report submitted to EPA should include both trade-secret and non-trade-secret versions. For additional information, refer to the discussion of trade-secret/confidentiality claims in the instructions for completing Part III, Section 1 of Form R.

HOW TO OBTAIN FORMS AND OTHER INFORMATION

A copy of Form R is included in this booklet. Remove this form and photocopy as many copies of it as you need. Additional copies of EPA Form R and related guidance documents may be obtained from:

Section 313 Document Distribution Center
P.O. Box 12505
Cincinnati, OH 45212

See the request form located before Appendix A (page 47) for more information on available documents. Questions about how to fill out the form may be submitted in writing to:

Emergency Planning and Community Right-to-Know Information Hotline
U.S. Environmental Protection Agency
401 M Street, S.W. (OS-120)
Washington, DC 20460

Alternatively, you may call (800) 535-0202 (in Washington, D.C. and Alaska, (202) 479-2449) from 8:30-7:30 Eastern Time.

EPA Regional Staff may also be able to help you. Refer to Appendix F (page 67) for a list of EPA Regional Contacts.

WHO MUST SUBMIT THIS FORM

Section 313 of Title III requires that reports be filed by owners and operators of facilities that meet all three of the following criteria:

- ☐ The facility has 10 or more full-time employees;
- ☐ The facility is included in Standard Industrial Classification (SIC) Codes 20 through 39; and
- ☐ The facility manufactured (defined to include imported), processed, or otherwise used in the course of a calendar year any listed chemical in quantities greater than the established threshold.

HOW TO DETERMINE IF YOUR FACILITY MUST SUBMIT EPA FORM R

(See Figure 1 for more information.)

DOES YOUR FACILITY HAVE TEN OR MORE FULL-TIME EMPLOYEES?

A "full-time employee," for purposes of section 313 reporting, is defined as 2,000 work hours per year. To determine the number of full-time employees at your facility, add up the hours worked by all employees during the calendar year, including contract employees and sales and support staff working at the facility. Divide the total by 2,000 hours. In other words, if the total number of hours worked by all employees is 20,000 hours or more, your facility meets the employee threshold.

IS YOUR FACILITY'S SIC CODE IN THE 20-39 RANGE?

Table I on page 30 includes a listing of SIC codes 20-39 and the associated 4-digit SIC codes covered by the rule. The first two digits of a 4-digit SIC code define a major business sector, while the last two digits denote a facility's specialty within the major sector. You may already know the SIC code of your business as a result of your having had to develop insurance or other reports. If you are not familiar with the SIC codes that apply to your facility, contact your trade association, Chamber of Commerce, or legal counsel. For a detailed description of 4-digit SIC codes, refer to the "Standard Industrial Classification Manual 1987." Clothbound editions should be available in most major libraries or may be ordered through the National Technical Information Service, 5285 Port Royal Road, Springfield, VA, 22161, (703) 487-4650. The access number for the clothbound manual is PB87-100012, and the price is $30.00. If you are unsure of your SIC code, review your operations to determine if you produce products of the type described in SIC codes 20-39. If the value of those products is greater than any other types of goods and services that you produce at that location, then you meet the SIC code criterion.

Section 313 requires that reports be filed by "facilities," which are defined as "all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person." The SIC code system, however, classifies business "establishments," which are defined as "distinct and separate economic activities [that] are performed at a single physical location."

Establishments, in the SIC code system, are to be treated as separate activities. In many cases, a section 313 "facility" is the same as an "establishment" as defined by the SIC code system.

Multi-establishment Facilities

Your facility may include multiple establishments that have different primary SIC codes. If so, calculate the value of the products produced or shipped from each establishment within the facility and then use the following rule to determine if your facility meets the SIC code criterion:

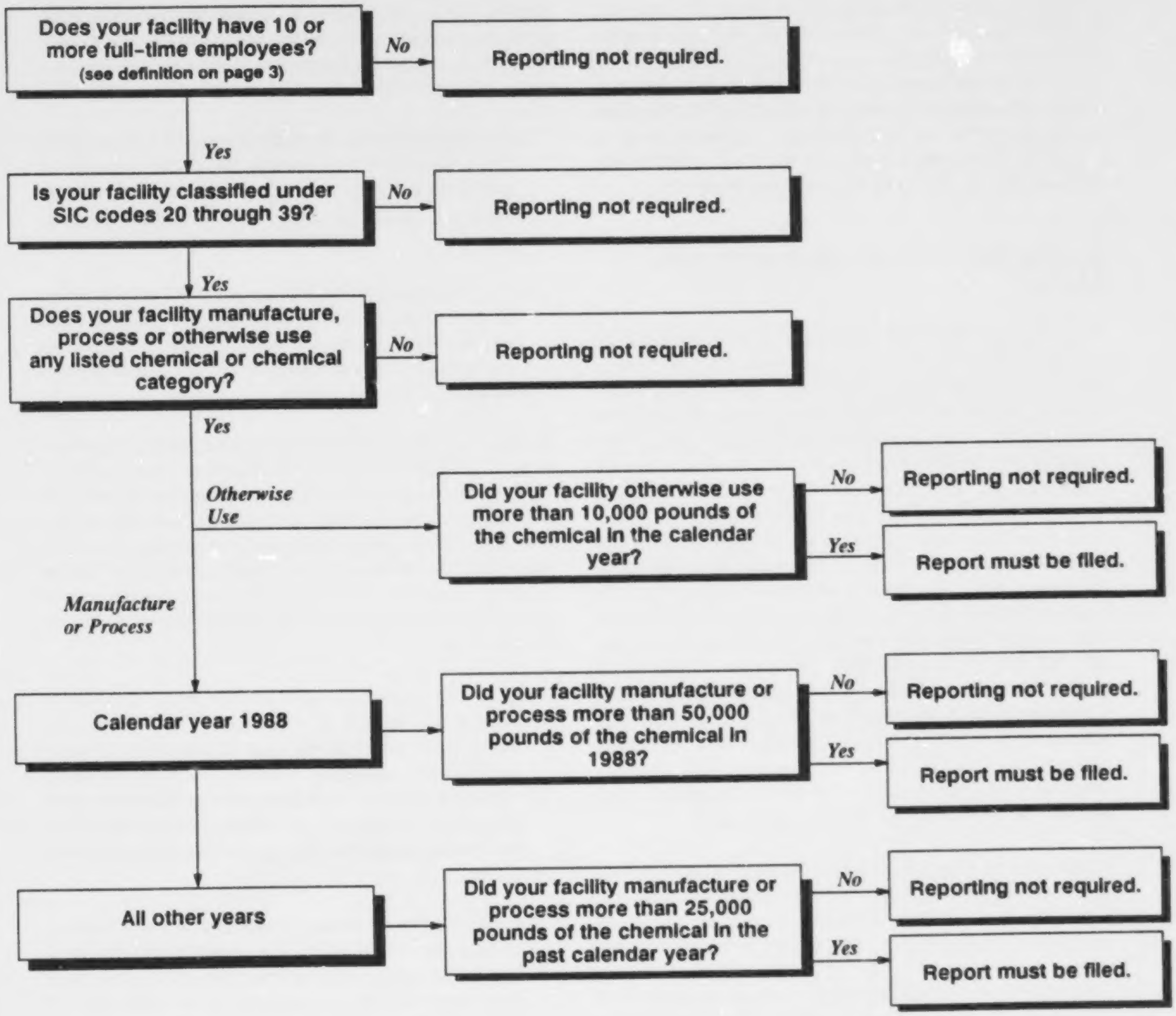
- ☐ If the total value of the products shipped from or produced at establishments with primary SIC codes between 20 and 39 is greater than 50 percent of the value of the entire facility's products, the facility meets the SIC code criterion.
- ☐ If any one establishment with a primary SIC code between 20 and 39 produces or ships products whose value exceeds the value of products produced or shipped by any other establishment within the facility, the facility also meets the SIC code criterion.

In calculating the value of production attributable to a particular establishment, the facility may adjust the value of production from that establishment by subtracting out the value of products which that establishment obtains from other establishments within the same facility and incorporates into its final production. This procedure eliminates the potential for "double counting" production in situations where establishments are engaged in sequential production activities at a single facility. Examples include:

- ☐ One establishment in a facility mines ore; all of the ore is smelted at a second establishment in the facility. The facility could calculate the value of production for each establishment separately. Alternatively, the facility could determine the value of ore production and subtract it from the value of the output from the smelter operation, which would yield the value of production for the latter establishment.
- ☐ A food processing establishment in a facility processes crops grown at the facility in a separate establishment. The facility could calculate the value of the products of each establishment by determining the total value of production from each establishment. Alternatively, the facility could determine the value of the crops grown at the agricultural establishment. Then, to calculate the contribution of the food processing establishment, the facility would subtract the crop value from the total value of the product shipped from the processing establishment.

Figure 1

Flowchart for Determining Applicability


Does your facility have 10 or more full-time employees? (see definition on page 3)
No
Reporting not required.
Yes
Is your facility classified under SIC codes 20 through 39?
No
Reporting not required.
Yes
Does your facility manufacture, process or otherwise use any listed chemical or chemical category?
No
Reporting not required.
Yes
Otherwise Use
Did your facility otherwise use more than 10,000 pounds of the chemical in the calendar year?
No
Reporting not required.
Yes
Report must be filed.
Manufacture or Process
Calendar year 1988
Did your facility manufacture or process more than 50,000 pounds of the chemical in 1988?
No
Reporting not required.
Yes
Report must be filed.
All other years
Did your facility manufacture or process more than 25,000 pounds of the chemical in the past calendar year?
No
Reporting not required.
Yes
Report must be filed.

A covered multi-establishment facility must make chemical threshold determinations and report all relevant information about releases and waste treatment associated with a listed chemical, even from establishments that are not in SIC codes 20-39. EPA realizes, however, that certain establishments in a multi-establishment facility can be, for all practical purposes, separate business units. Therefore, individual establishments may report separately, provided that the total release and other required information is reported for the whole facility.

Auxiliary Facilities

An auxiliary facility is one that directly supports another establishment's activities (e.g., research and development laboratories, warehouses, storage facilities, and waste-treatment facilities). An auxiliary facility can take on the SIC code of another covered facility if its primary function is to service that other covered facility's operations. Thus, a separate warehouse facility (i.e. one not located within the physical boundries of a covered facility) may become a covered facility because it services a 20-39 facility. Auxiliary facilities that are in SIC codes 20-39 are required to report if they meet the employee criterion and chemical thresholds for manufacture, process, or use. Auxiliary establishments that are part of a multi-establishment facility must be factored into threshold determinations for the facility as a whole.

Facility-Related Exemptions

Listed toxic chemicals that are manufactured, processed, or otherwise used in laboratories at a covered facility under the supervision of a technically qualified individual do not have to be factored into the threshold or release calculations. However, pilot plant scale or specialty chemical production do not qualify for this laboratory exemption.

You are not required to report if you merely own real estate on which a facility covered by this rule is located; that is, you have no other business interest in the operation of that facility (e.g., your company owns an industrial park). The operator of that facility, however, is subject to reporting requirements.

DOES YOUR FACILITY "MANUFACTURE, PROCESS, OR USE" ONE OR MORE OF THE CHEMICALS COVERED BY THE REPORTING RULE?

Table II (page 36 of these instructions) contains the list of individual chemicals and categories of chemicals subject to 1988 calendar year reporting. Some of the chemicals listed in Table II have parenthetic qualifiers listed next to them. A chemical that is listed without a qualifier is subject to reporting in all forms in which it is manufactured, processed, and used.

Fume or dust. Three of the metals on the list (aluminum, vanadium, and zinc) contain the qualifier "fume or dust." This qualifier means that a facility is manufacturing, processing, or using the metal in the form of fume or dust. Fume or dust does not refer to "wet" forms, solutions or slurries, for example, but only dry or anhydrous forms of these metals. As explained on page 6 of these instructions, the term manufacture includes the generation of a chemical as a byproduct or impurity. In such cases, a facility should determine if, for example, it generated more than 50,000 pounds of aluminum fume or dust in 1988 as a result of its activities. If so, the facility must report that it manufactures "aluminum (fume or dust)." Similarly, there may be certain technologies in which one of these metals is processed in the form of a fume or dust to make other chemicals or other products for distribution in commerce. In reporting releases, the facility would only report releases of the fume or dust.

Manufacturing qualifiers. Two of the list entries contain a qualifier relating to manufacture. For isopropyl alcohol, the qualifier reads "manufacturing-strong acid process." For saccharin, the qualifier simply reads "manufacturing." In the case of isopropyl alcohol, the qualifier means that only facilities that manufacture isopropyl alcohol by the strong acid process are required to report. In the case of saccharin, only manufacturers of the chemical are subject to the reporting requirements. A facility that processes or otherwise uses either chemical would not be required to report for those chemicals. In both cases, supplier notification does not apply.

Solutions. Four substances on the list, ammonium nitrate, ammonium sulfate, sodium hydroxide, and sodium sulfate, are qualified by the term "solution," which refers to the physical state of these chemicals. Only facilities that manufacture, process, or otherwise use these chemicals in the form of a solution are required to report. Supplier notification applies only if the chemical is distributed as a solution. (See page 7 for information on calculating threshold and release determinations for solutions.)

Phosphorus (yellow or white). The listing for phosphorus is qualified by the term "yellow or white." This refers to a chemical state of phosphorus meaning that only manufacturing, processing, or use of phosphorus in the yellow or white states triggers reporting. Conversely, manufacturing, processing, or use of "black" or "red" phosphorus do not trigger reporting. Supplier notification also applies only to distribution of yellow or white phosphorus.

Asbestos (friable). The listing for asbestos is qualified by the term "friable," referring to a physical characteristic of asbestos. The term "friable" means crumbled, pulverized, or reducible to a powder with hand pressure. Again, only manufacturing, processing, or use of asbestos in the friable form triggers reporting. Similarly, supplier notification applies only to distribution of friable asbestos.

Definitions of "Manufacture," "Process," and "Otherwise Use"

Manufacture: The term "manufacture" means to produce, prepare, compound or import a listed toxic chemical. Import is defined as causing the chemical to be imported into the customs territory of the United States. If you order a covered toxic chemical (or a mixture containing the chemical) from a foreign supplier, then you have imported the chemical when that shipment arrives at your facility. By ordering the chemical, you have "caused it to be imported," even though you may have used an import brokerage firm as an agent to obtain the chemical. The term manufacture also includes coincidental production of a toxic chemical (e.g., as a byproduct or impurity) as a result of the manufacture, processing, use, or disposal of other chemical substances. In the case of coincidental production of an impurity (i.e., a chemical that remains in the product that is distributed in commerce), the *de minimis* limitation, discussed on page 8, applies. The *de minimis* limitation does not apply to byproducts (e.g., a chemical that is separated from a process stream and further processed or disposed). Certain listed toxic chemicals may be manufactured as a result of wastewater treatment or other treatment processes. For example, neutralization of acid wastewater can result in the coincidental manufacture of sodium sulfate (solution).

EXAMPLE

Your company, a nitric acid manufacturer, uses ammonia in a waste treatment system to neutralize an acidic wastewater stream containing nitric acid. The reaction of the ammonia and nitric acid produces an ammonium nitrate solution. Ammonium nitrate solution is a listed toxic substance, as are nitric acid and ammonia. Your facility otherwise uses ammonia as a reactant and manufactures ammonium nitrate solution as a byproduct. If the ammonium nitrate solution is produced in a quantity that exceeds the threshold (e.g., 50,000 pounds for 1988), releases of ammonium nitrate solution from the facility must be reported. If more than 10,000 pounds of ammonia is added to the wastewater treatment system, then releases of ammonia must also be reported.

Process: The term "process" means the preparation of a listed toxic chemical, after its manufacture, for distribution in commerce. Processing includes preparation of the chemical in the same physical state or chemical form as that received by your facility, or preparation that produces a change in physical state or chemical form. The term also applies to the processing of a component in a mixture or other trade name product (see page 8) that is a listed toxic chemical.

EXAMPLE

The examples below illustrate the categorization of some typical process and manufacture activities.

- ☐ Your company receives toluene, a listed toxic chemical, from another facility, reacts the toluene with air to form benzoic acid, and further reacts the benzoic acid with a cadmium catalyst to form terephthalic acid. Cadmium compounds and terephthalic acid are also listed toxic chemicals. Your company processes toluene, and uses (not processes) the cadmium catalyst (see the definition of "otherwise used" below). Your company manufactures benzoic acid and terephthalic acid. Benzoic acid, however, is not a listed chemical and thus does not trigger reporting requirements.
- ☐ Your company receives a nickel compound (nickel compound is a listed toxic chemical category) as a bulk solid and performs various size-reduction operations (e.g., grinding) before packaging the compound in 50-lb bags. Your company processes the nickel compound.
- ☐ Your company receives a prepared mixture of resin and chopped fiber to be used in the injection molding of plastic products. The resin contains a listed chemical that becomes incorporated into the plastic. Your facility processes the chemical.

Otherwise Use: The term "otherwise use" encompasses any use of a listed chemical at a facility that does not fall under the definitions of "manufacture" or "process." A chemical that is used by a facility is not intentionally incorporated into a product distributed in commerce.

EXAMPLE

When your facility cleans equipment with toluene, you are using toluene. However, if your facility incorporates toluene into a mixture for distribution in commerce, your facility is processing that chemical. Your facility also separates two components of a mixture by dissolving one component in toluene, and subsequently recovers the toluene from the process for reuse or disposal. Your facility uses toluene.

Exemptions

Use Exemptions. Certain uses of listed chemicals are specifically exempted: use as a structural component of the facility; use in routine janitorial or facility grounds maintenance; personal uses by employees or other persons; use of products containing toxic chemicals for the purpose of maintaining motor vehicles operated by the facility; or use of toxic chemicals contained in intake water (used for processing or noncontact cooling) or in intake air (used either as compressed air or for combustion).

Article Exemptions. You do not have to factor into threshold or release determinations quantities of a listed toxic chemical contained in an article if that article is processed or used at your facility. An article is defined as a manufactured item that is formed to a specific shape or design during manufacture, that has end-use functions dependent in whole or in part upon its shape or design during end-use, and that does not release a toxic chemical under normal conditions of the processing or use of that item at the facility.

The release criteria in the article definition is not absolute. Reporting of releases under section 313 may be rounded to the nearest pound. Releases of less than 0.5 pounds per year do not negate the article status of an item that meets the first two criteria in the article definition. If when processing or using an item the estimate of total annual releases of a toxic chemical is less than 0.5 pounds, then the facility may round this estimate to zero. Thus, the article status of the item would be retained because, in effect, the releases are calculated to be zero. Low level releases of a toxic chemical from an item due to normal or natural degradation, corrosion, etc., does not negate the article status.

The article exemption applies to the normal processing or use of an article. It does not apply to the manufacture of an article. Toxic chemicals contained in articles manufactured at a facility must be factored into threshold and release determinations.

The following examples apply the article exemption:

- ☐ Lead that is incorporated into a lead acid battery is processed in order to manufacture the battery, and therefore must be counted toward threshold and release determinations. However, the use of the lead acid battery elsewhere in the facility does not have to be counted. Disposal of the battery after its use does not constitute a "release"; thus, the battery remains an article.

- ☐ Metal rods that are extruded into wire are not articles because their form changes during processing. However, wire that is twisted or bent is an article as long as it remains identifiably wire.

- ☐ If an item used in the facility is fragmented, the item is still an article if those fragments being discarded remain identifiable as the article (e.g., recognizable pieces of a cylinder, pieces of wire). For instance, an 8-foot piece of wire is broken into two 4-foot pieces of wire, without releasing any toxic chemicals. Each 4-foot piece is identifiable as a piece of wire; therefore, the article status for these pieces of wire remain intact.

- ☐ When the processing or use of an item generates fumes, dust, filings, and grindings, the article exemption is not applicable. The chemical(s) in the item must be counted toward the appropriate threshold determination, and the fumes, dust, filings, and grindings reported as releases or wastes. However, if all wastes generated are recycled, whether on- or off-site, the exemption is applicable.

- ☐ Toxic chemicals formed into pellets are not articles because the pellet form is simply a convenient form for further processing of the material. Plastic pellets intended for extrusion are not articles. The same is true for metal ingots.

- ☐ A closed item containing toxic chemicals (e.g., a transformer containing PCBs) that does not release the chemicals during normal use is considered an article if the facility uses the item as intended and the toxic chemicals are not released. If the facility services the transformer by replacing the toxic chemicals, the chemicals must be counted in threshold and release calculations.

DURING A CALENDAR YEAR, DOES YOUR FACILITY MANUFACTURE, PROCESS, OR USE A LISTED CHEMICAL IN QUANTITIES GREATER THAN THE THRESHOLD ESTABLISHED FOR THAT YEAR?

Section 313 sets certain reporting threshold quantities, which vary depending upon the year for which the report is submitted and whether the chemical is manufactured, processed, or otherwise used. You must submit a report if the quantity of a listed chemical that is manufactured or processed over the course of the year at your facility exceeds the following threshold:

- ☐ For calendar year 1987, 75,000 pounds;
- ☐ **For calendar year 1988, 50,000 pounds;**
- ☐ For calendar year 1989 and subsequent years, 25,000 pounds.

You must submit a report if the quantity of a listed chemical that is otherwise used at your facility exceeds 10,000 pounds during the course of a calendar year.

How to Determine if Thresholds Are Exceeded

To determine whether your facility has exceeded a threshold, compare quantities of listed chemicals that you manufacture, process, or use to the separate respective thresholds for those activities. A worksheet for threshold determinations is included in Appendix C (page 54). Do not add together the quantities of the chemical that are manufactured, processed, and used at your facility, because each of these activities requires a separate threshold determination. For example, if in 1988 you processed 20,000 pounds of a chemical and you used 6,000 pounds of that same chemical, your facility has not met or exceeded any applicable threshold and thus is not required to report for that chemical.

You must submit a report if you exceed any threshold for any listed chemical or chemical category. For example, if your facility processes 22,000 pounds of a listed chemical and also otherwise uses 16,000 pounds of that same chemical, although you do not exceed the process threshold, you do exceed the otherwise used threshold (10,000 pounds) and you therefore must report. However, in preparing your reports, you must consider all non-exempted activities and all releases of that chemical from your facility, not just the releases from the use activity.

Also note that threshold determinations are based upon the actual amounts of a chemical manufactured, processed, or used over the course of the calendar year, which may not equal the amount brought on-site. Thus, stockpiles of listed chemicals intended for a process that is not operated during a calendar year do not count toward threshold determinations.

Threshold determinations of listed toxic chemicals that are recycled or reused at the facility are based only on the amount of the chemical that is added to such recycle/reuse activity during the year, not the total volume in the system. For example, a facility operates a refrigeration unit that contains 15,000 pounds of ammonia at the beginning of the year. The system is charged with 2,000 pounds of ammonia at some point of the year. The facility has therefore "used" only 2,000 pounds of the covered chemical and is not required to report (unless there are other "uses" of ammonia which, when taken together, exceed the reporting threshold). If, however, the whole refrigeration unit had to be recharged with 15,000 pounds of ammonia during the year, the facility would have exceeded the use threshold.

Threshold determinations for metal-containing compounds present a special case. If, for example, you process several different lead compounds, you would base your threshold determination on the total weight of all lead compounds processed. However, if you process both the "parent" metal (lead) as well as one or more lead compounds, you must make threshold determinations for both because they are separately listed toxic chemicals. If you exceed thresholds for both the parent metal and compounds of that same metal, EPA allows you to file one joint report instead of two (e.g., one report for lead compounds, including lead) because the release information you will report in connection with metal compounds will be the total pounds of the parent metal released.

One other case involving metal compounds should be noted. Some metal compounds may contain more than one listed metal. For example, lead chromate is considered both a lead compound and a chromium compound. In such cases, if applicable thresholds are exceeded, you are required to file two separate reports, one for lead compounds and one for chromium compounds.

Mixtures and Trade Name Products

De Minimis Limitation. Toxic chemicals in mixtures and in tradename products must be factored into threshold and release determinations. However, a listed chemical does not have to be considered if it is present in a mixture at a concentration below a specified *de minimis* level. In general, the *de minimis* level is 1.0%, or 0.1% if the chemical meets the OSHA carcinogen standard. See Table II for the *de minimis* value associated with each listed toxic chemical. EPA included this exemption in the rule as a burden reducing step, primarily because facilities are not likely to have information on the presence of a chemical in a mixture or tradename product beyond that available in the product's MSDS. The *de minimis* levels are consistent with OSHA requirements for development of the MSDS.

For threshold determinations, the *de minimis* limitation applies to:

☐ A listed toxic chemical in a mixture or tradename product received by the facility.

☐ A listed toxic chemical manufactured during a process where the chemical remains in a mixture or product distributed by the facility.

The *de minimis* does not apply to:

☐ A chemical in a wastestream resulting from processes in which that chemical is produced, whether as a product, byproduct, or impurity. A threshold determination must be made on the annual quantity of the chemical present in the wastestream, regardless of the concentration. For example, quantities of formaldehyde created as a result of waste treatment must be applied toward the threshold for "manufacture" of this chemical, regardless of the concentration of this chemical in the wastestream.

☐ Chemicals in ores, wastes, etc., that undergo intentional beneficiation for purposes of production of that chemical. For example, a company recovers silver by processing waste material containing silver at less than 1% total weight of the material. Although silver is received at less than the *de minimis* concentration, the *de minimis* would not apply because the process concentrates and produces silver as an end product.

In general, when the *de minimis* applies to threshold determinations and the percent in the mixture is below the *de minimis*, then you are not required to report releases associated with the processing or use of the chemical in that mixture. Note that it is possible to meet the threshold for a chemical on a facility-wide basis, but not be required to calculate releases from a particular process because that process involves only mixtures containing the chemical below the *de minimis* level.

Application of the *de minimis* limitation to process streams must also be reviewed. Mixtures containing listed toxic chemicals can be added to a process or generated within a process. In both cases (assuming thresholds are exceeded) a facility is required to consider and report releases from the process up to the point at which the concentration of the chemical falls below the *de minimis* level. For example, a 10% solution of a listed chemical is mixed into a formulated cleaning solution, resulting in a final concentration of less than 1%. Releases such as air emissions from the mix vessel are counted, but releases from the finished formulation are not counted.

Supplier Notification. In 1989, suppliers of facilities in SIC codes 20-39 will be required to develop and distribute a notice if the mixtures or trade name products that they manufacture or process, and subsequently distribute, contain listed toxic chemicals and are distributed to other companies in SIC codes 20-39 or to companies that sell the product to facilities in SIC codes 20-39. If a Material Safety Data Sheet (MSDS) is not required for the mixture or trade name product, the notification must be written. Otherwise, the notice must be incorporated into or attached to the MSDS for that product. The supplier notification requirement begins with the first shipment of a product in 1989 and must accompany the first shipment each year thereafter. In addition, a new or revised notice must be sent if a change occurs in the product which affects the weight of a listed chemical or if it is discovered that a previous notice did not properly identify the chemicals or the percentage by weight.

Note to Suppliers: An item is still considered an article if you can determine that the total releases of any toxic chemical that are likely to occur from the processing or use of that article by your largest volume customer for the product will not equal or exceed 0.5 pounds per year. (See page 7 for further explanation of half-pound rounding for articles.)

If listed toxic chemicals are present above the *de minimis* cut-off level, your supplier must identify the specific components as they appear in Table II and provide their percentage composition by weight in the mixture or product. If your supplier maintains that the identity of a toxic chemical is a trade secret, a generic identity that is structurally descriptive must be supplied on the notice. A maximum concentration level must be provided if your supplier contends that chemical composition information is a trade secret. In either case, you do not need to make a trade secret claim on behalf of your supplier (unless you consider your use of the proprietary mixture a trade secret). Report using the generic name provided in the notification. (See the instructions for Part III, Section 2 on page 16 for more information.) If the listed chemical is present below the *de minimis* level, no notification is required.

If you imported, processed, or otherwise used mixtures or trade name products during calendar year 1988, you are required to use the best information you have available to determine whether the components of a mixture are above the *de minimis* concentration and therefore must be included in threshold and release determinations. If you know that a mixture or trade name product contains a specific toxic chemical, combine the amount of the chemical in the mixture or product with the individual amounts of the same chemical manufactured, processed, or otherwise used at your facility for threshold and release determinations. If you know only the maximum concentration of the toxic chemical present in the mixture or product, then you are required to assume that the toxic chemical is present at that concentration and calculate the weight accordingly. (See Figure 2 for more information.)

Figure 2

Mixture and Trade Name Products – How They Factor Into Your Reports

Any covered toxic chemicals in mixtures or trade name products (M/TNP) must be factored into your threshold and release determinations.

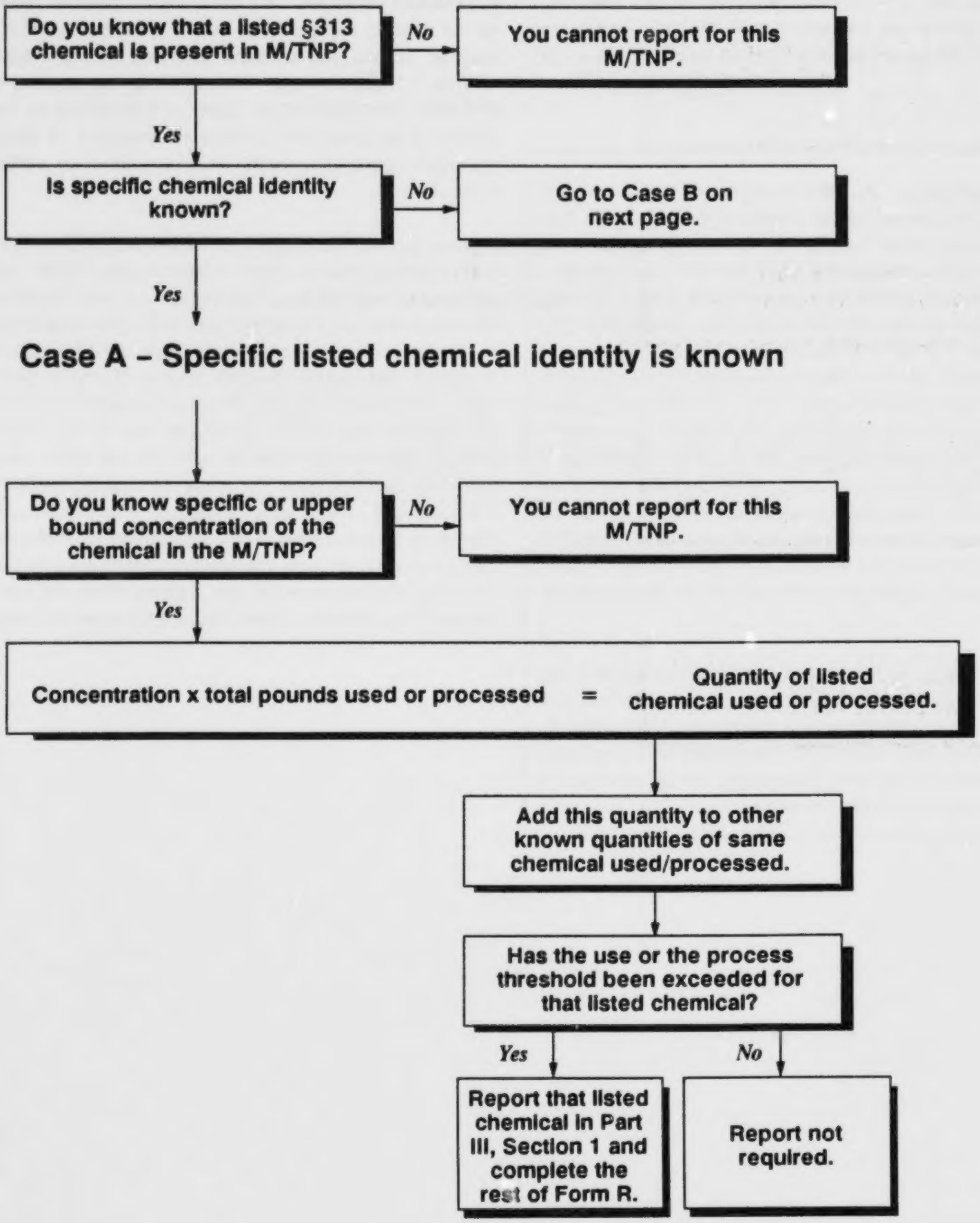
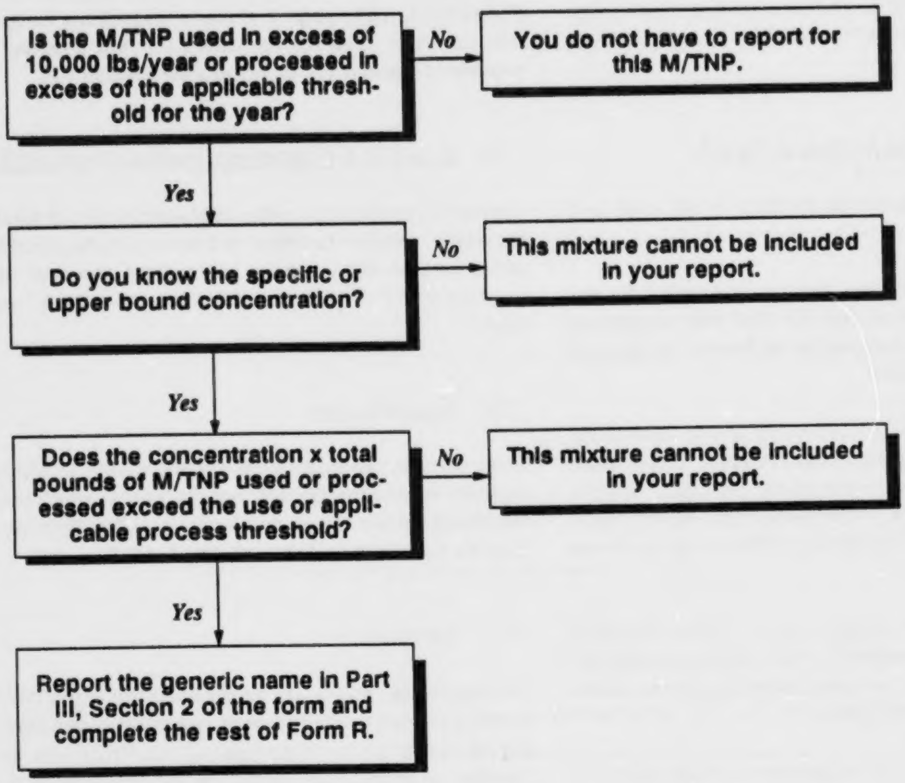

Do you know that a listed §313 chemical is present in M/TNP?
No
You cannot report for this M/TNP.
Yes
Is specific chemical identity known?
No
Go to Case B on next page.
Yes
Case A – Specific listed chemical identity is known
Do you know specific or upper bound concentration of the chemical in the M/TNP?
No
You cannot report for this M/TNP.
Yes
Concentration x total pounds used or processed = Quantity of listed chemical used or processed.
Add this quantity to other known quantities of same chemical used/processed.
Has the use or the process threshold been exceeded for that listed chemical?
Yes
No
Report that listed chemical in Part III, Section 1 and complete the rest of Form R.
Report not required.

Figure 2 (continued)

Case B – Generic identity is known (e.g., your supplier has told you it is §313 chemical but considers the specific identification as trade secret).


Is the M/TNP used in excess of 10,000 lbs/year or processed in excess of the applicable threshold for the year?
No
You do not have to report for this M/TNP.
Yes
Do you know the specific or upper bound concentration?
No
This mixture cannot be included in your report.
Yes
Does the concentration x total pounds of M/TNP used or processed exceed the use or applicable process threshold?
No
This mixture cannot be included in your report.
Yes
Report the generic name in Part III, Section 2 of the form and complete the rest of Form R.

INSTRUCTIONS FOR COMPLETING SPECIFIC SECTIONS OF EPA FORM R

The following are specific instructions for completing each part of EPA Form R. The number designations of the parts and sections of these instructions correspond to those in Form R unless otherwise indicated.

A sample, completed Form R for a hypothetical facility reporting under Title III, section 313, is included as Appendix A (page 47). You may want to refer to this sample as you read through these instructions.

Instructions for Completing All Parts of Form R:

1. Type or print information on the form in the units and format requested.
2. Longitudinal and latitudinal data were optional for the 1987 reports but are required for 1988 and subsequent reporting years. All information on Form R is required except Part III, Section 8.
3. Do not leave items on Form R blank unless specifically directed to do so; if an item does not apply to you, enter "NA," not applicable, in the space provided. If your information does not fill all the spaces provided for a type of information, enter NA, in the next blank space in the sequence.
4. Do not submit an incomplete form. The certification statement (Part I) specifies that the report is complete as submitted. See page 1 of these instructions for the definition of a complete submission.
5. When completing Part IV, supplemental information, or additional pages for Part II of the form, number the additional information sequentially from the prior sections of the form.
6. The box labelled "This space for your optional use" on each page may be used to differentiate one chemical-specific submission from another. You are not required to enter any information in this space. See page 2 for use of this box relating to a voluntary revision of a previous submission.

PART I. FACILITY IDENTIFICATION INFORMATION

1.1 Are you claiming the chemical identity on page 3 trade secret?

Answer this question only after you have completed the rest of the report. The specific identity of the toxic chemical being reported in Part III, Sections 1.2 and 1.3, may be designated as trade secret. If you are making a trade secret claim, mark "yes" and proceed to Section 1.2. Only check "Yes" if it is your manufacturing, processing, or use of the chemical that is a trade secret. (See page 1 of these instructions for specific information on trade secrecy claims.) If you checked "no," proceed to Section 1.3; do not answer Section 1.2.

1.2 If "yes" in 1.1, is this copy sanitized or unsanitized?

Answer this question only after you have completed the rest of the report. Check "sanitized" if this copy of the report is the public version and you have claimed the chemical identity trade secret in Part III, Section 1.1. Otherwise, check "unsanitized."

1.3 Reporting Year

Enter the last two digits of the calendar year to which the reported information applies, not the year in which you are submitting the report. Information for the 1988 reporting year must be submitted on or before July 1, 1989.

2. Certification

The certification statement must be signed by the owner or operator or a senior official with management responsibility for the person (or persons) completing the form. The owner, operator, or official must certify the accuracy and completeness of the information reported on the form by signing and dating the certification statement. Each report must contain an original signature. Print or type in the space provided the name and title of the person who signs the statement. This certification statement applies to all the information supplied on the form and should be signed only after the form has been completed.

3. Facility Identification

3.1 Facility Name and Location

Enter the name of your facility (plant site name or appropriate facility designation), street address, city, county, state, and zip code in the space provided. Do not use a post office box number as the address. The address provided should be the location where the chemicals are manufactured, processed, or otherwise used.

3.2 Full or Partial Facility Indication

A covered facility must report all releases of a listed chemical if it meets a reporting threshold for that chemical. However, if the facility is composed of several distinct establishments, EPA allows these establishments to submit separate reports for the chemical as long as all releases of the chemical from the entire facility are accounted for. Indicate in Section 3.2 whether your report is for the entire covered facility as a whole or for part of a covered facility. Check box a. if the chemical information applies to the entire covered facility. Check box b. if the chemical information applies only to part of a covered facility.

Section 313 requires reports by "facilities," which are defined as "all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person."

The SIC code system defines business "establishments" as "distinct and separate economic activities [that] are performed at a single physical location." Under section 372.30(c) of the reporting rule, you may submit a separate Form R for each establishment, or for groups of establishments, in your covered facility, provided that all releases of the toxic chemicals from the entire covered facility are reported. This allows you the option of reporting separately on the activities involving a toxic chemical at each establishment, or group of establishments (e.g., part of a covered facility), rather than submitting a single Form R for that chemical for the entire facility. However, if an establishment or group of establishments does not manufacture, process, or otherwise use or release a toxic chemical, you do not have to submit a report for that establishment or group of establishments.

3.3 Technical Contact

Enter the name and telephone number (including area code) of a technical representative whom EPA or State officials may contact for clarification of the information reported on Form R. This contact person does not have to be the same person who prepares the report or signs the certification statement and does not necessarily need to be someone at the location of the reporting facility; however, this person must be familiar with the details of the report so that he or she can answer questions about the information provided.

3.4 Public Contact

Enter the name and telephone number (including area code) of a person who can respond to questions from the public about the report. If you choose to designate the same person as both the technical and the public contact, you may enter "Same as Section 3.3" in this space. This contact person does not have to be the same person who prepares the report or signs the certification statement and does not necessarily need to be someone at the location of the reporting facility.

3.5 Standard Industrial Classification (SIC) Code

Enter the appropriate 4-digit primary Standard Industrial Classification (SIC) code for your facility (Table I, page 30, lists the SIC codes within the 20-39 range). If the report covers more than one establishment, enter the primary 4-digit SIC code for each establishment. You are required to enter SIC codes only for those establishments within the facility that fall within SIC codes 20 to 39.

3.6 Latitude and Longitude

Enter the latitudinal and longitudinal coordinates of your facility. Sources of these data include EPA permits (e.g., NPDES permits), county property records, facility blueprints, and site plans. Instructions on how to develop these coordinates can be found in Appendix B (page 52). Enter only numerical data. Do not preface numbers with letters such as N or W to denote the hemisphere.

3.7 Facility Dun and Bradstreet Number

Enter the 9-digit number assigned by Dun and Bradstreet (D&B) for your facility or each establishment within your facility. These numbers code the facility for financial purposes. This number may be available from your facility's treasurer or financial officer. You can also obtain the numbers from your local Dun and Bradstreet office (check the White Pages). If none of your establishments has been assigned a D & B number, enter not applicable, NA, in box a. If only some of your establishments have been assigned Dun and Bradstreet numbers, enter those numbers in Section 3.7.

3.8 EPA Identification Number

The EPA I.D. Number is a 12-digit number assigned to facilities covered by hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA). Facilities not covered by RCRA are not likely to have an assigned I.D. Number. If your facility is not required to have an I.D. Number, enter not applicable, NA, in box a. If your facility has been assigned EPA Identification Numbers, you must enter those numbers in the spaces provided in Section 3.8.

3.9 NPDES Permit Number

Enter the numbers of any permits your facility holds under the National Pollutant Discharge Elimination System (NPDES). This 9-digit permit number is assigned to your facility by EPA or the State under the authority of the Clean Water Act. If your facility does not have a permit, enter not applicable, NA, in box a.

3.10 Receiving Streams or Water Bodies

In Section 3.10 you are to enter the name(s) of the stream(s) or water body(ies) to which your facility directly discharges the chemicals you are reporting. A total of six spaces are provided, lettered a through f. The information you provide relates directly to the discharge quantity information required in Part III, Section 5.3. You can complete Section 3.10 in one of two ways. You can enter only those stream names that relate to the specific chemical that is the subject of the report or, you can enter all stream names that relate to all covered chemicals being reported by the facility. Enter the name of the first receiving stream or surface water body to which the chemical being reported is directly discharged. Report the name of the receiving stream or water body as it appears on the NPDES permit for the facility. If you do not have a permit, enter the name of the off-site stream or water body by which it is publicly known. Be sure to include the receiving stream(s) or water body(ies) that receive stormwater runoff from your facility. Do not enter names of streams to which off-site treatment plants discharge. Also do not list a series of streams through which the chemical flows. Enter not applicable, NA, in 3.10a. if you do not discharge any listed toxic chemicals to surface water bodies.

3.11 Underground Injection Well Code (UIC) Identification Number

If your facility has a permit to inject a chemical-containing waste that includes the toxic chemicals into Class 1 deep wells, enter the 12-digit Underground Injection Well Code (UIC) identification number assigned by EPA or by the State under the authority of the Safe Drinking Water Act. If your facility does not hold such a permit(s), enter not applicable, NA, in 3.11a.

4. Parent Company Information

You must provide information on your parent company. For purposes of Form R, a parent company is defined as the highest holder located in the United States that directly owns at least 50 percent of the voting stock of your company. If your facility is owned by a foreign entity, enter not applicable, NA, in this space. Corporate names should be treated as parent company names for companies with multiple sites. For example, the Bestchem Corporation is not owned or controlled by any other corporation. It has several sites throughout the country whose names begin with Bestchem. In this case, Bestchem Corporation would be listed as the "parent" company.

4.1 Name of Parent Company

Enter the name of the corporation or other business entity that is your parent company. If your facility has no parent company, enter not applicable, NA.

4.2 Parent Company's Dun & Bradstreet Number

Enter the Dun and Bradstreet Number for your parent company, if applicable. The number may be obtained from the treasurer or financial officer of the company. If your parent company does not have a Dun and Bradstreet number, enter not applicable, NA.

PART II. OFF-SITE LOCATIONS TO WHICH TOXIC CHEMICALS ARE TRANSFERRED IN WASTES

In this part of the form you are required to list all off-site locations to which you transfer wastes containing toxic chemicals. Do not list locations to which products containing toxic chemicals are shipped for sale or distribution in commerce or for further use. Also, do not list locations to which wastes containing chemicals are sold or sent for recovery, recycling, or reuse of the toxic chemicals. The information that you enter in this section relates to data you will report in Part III, Section 6. You may complete Part II for only the off-site locations that apply to the specific chemical cited in a particular report or you can list all off-site locations that apply to all chemicals being reported and include a photostatic copy of Part II with each individual report. List only publicly owned treatment works (POTWs) and off-site treatment or disposal facilities.

1. Publicly Owned Treatment Works (POTWs)

Enter the name and address of each POTW to which your facility discharges wastewater containing toxic chemicals for which you are reporting. If you do not discharge wastewater containing the reported toxic chemicals to a POTW, enter not applicable, NA in the facility name line of 1.1.

If you discharge such wastewater to more than two POTWs, use additional copies of Part II. Cross through the printed numbers and write in numbers for these locations in ascending order (e.g., 1.3, 1.4). Check the box at the bottom of the page and indicate the number of additional pages of Part II that are attached.

2. Other Off-Site Locations

Enter in the spaces provided, the name and address of each location (other than POTWs) to which you ship or transfer wastes containing toxic chemicals. If you do not ship or transfer wastes containing toxic chemicals to off-site locations, enter not applicable, NA in the Off-site location name line of 2.1. Also enter the EPA Identification Number (RCRA I.D. Number) for each such location if known to you. This number may be found on the Uniform Hazardous Waste Manifest, which is required by RCRA regulations. Also indicate in the space provided whether the location is owned or controlled by your facility or your parent company. If the facility does not have a RCRA I.D. number, enter not applicable, NA, in this space.

If your facility transfers toxic chemicals to more than six off-site locations, use additional copies of Part II. Cross through the printed numbers and write in numbers for these locations in ascending order (i.e., 2.7, 2.8). Check the box at the bottom of the page and indicate the number of additional pages of Part II that are attached.

EXAMPLE

Your facility is involved in chrome plating of metal parts, which are shipped to an off-site warehouse not owned by your company for distribution. Your facility produces an aqueous plating waste that is treated on-site to recover chromium sludge. The effluent from the on-site treatment plant, which contains chromium compounds (a listed toxic chemical), is piped to a POTW. The chromium sludge is transferred to an off-site, privately owned recovery firm. Chromium is recovered from the sludge by an ion exchange process. Your facility also produces a solid waste containing chromium, which is sent to an off-site permitted landfill owned by your facility.

You must report the locations of the POTW and the permitted landfill in Sections 1 and 2 of Part II of Form R. Do not report the location of the warehouse or give any information about the on-site treatment plant in this section. Indicate that the landfill is under the control of your facility. You are not required to report the location of the off-site, privately owned recovery firm or provide any information concerning off-site recovery.

PART III. CHEMICAL-SPECIFIC INFORMATION

In Part III, you are to identify the toxic chemical being reported. You are to indicate some general uses and activities related to the chemical at your facility. Also in Part III you will enter quantitative data relating to releases of the chemical directly from the facility to air, water, and land. Quantities of the chemical transferred to off-site locations, identified in Part II, are also reported in this part. The final required section provides for reporting of waste treatment information. An additional optional section is included in this part that allows you to report waste minimization information associated with the chemical.

1.1 [Reserved]

1.2 CAS Number

Enter the Chemical Abstracts Service (CAS) registry number in Section 1.2 exactly as it appears in Table II, page 36, for the chemical being reported. CAS numbers are cross-referenced with an alphabetical list of chemical names in Table II of these instructions. If you are reporting one of the chemical categories in Table II (e.g., copper compounds), enter not applicable, NA, in the CAS number space.

If you are making a trade secret claim, you must report the CAS number on your unsanitized Form R and unsanitized substantiation form. Do not report it on your sanitized Form R and sanitized substantiation form.

1.3 Chemical or Chemical Category Name

Enter the name of the chemical or chemical category exactly as it appears in Table II. If the chemical name is followed by a synonym in parentheses, report the chemical by the name that directly follows the CAS number (i.e., not the synonym). If the listed chemical identity is actually a product tradename (e.g., dicofol), the 9th Collective Index name is listed below it in brackets. You may report either name in this case. Do not list the name of a chemical that does not appear in Table II, including individual members of a reportable category. For example, if you use silver nitrate, do not report silver nitrate with its CAS number. Report this chemical as "silver compounds" with no CAS number.

If you are making a trade secret claim, you must report the specific chemical identity on your unsanitized Form R and unsanitized substantiation form. Do not report the chemical name on your sanitized Form R and sanitized substantiation form; report a generic name in Section 1.4 below.

1.4 Generic Chemical Name

Complete Section 1.4 only if you are claiming the specific chemical identity of the toxic chemical as a trade secret and have marked the trade secret block in Part I, Section 1.1 on page 1 of Form R. Enter a generic chemical name that is descriptive of the chemical structure. You must limit the generic name to seventy characters (e.g., numbers, letters, spaces, punctuation) or less. Do not enter mixture names in Section 1.4; see Section 2 below.

In-house plant codes and other substitute names that are not structurally descriptive of the chemical identity being withheld as a trade secret are not acceptable as a generic name. The generic name must appear on both sanitized and unsanitized Form R's, and the name must be the same as that used on your substantiation forms. The Emergency Planning and Community Right-to-Know Information Hotline can provide you with assistance in selecting an appropriate generic name.

2. Mixture Component Identity

Do not complete this section if you have completed Section 1 of Part III. Report the generic name provided to you by your supplier in the section if your supplier is claiming the chemical identity proprietary or trade secret. Do not answer "yes" in Part I, Section 1.1 on page 1 of the form if you complete this section. You do not need to supply substantiation forms.

Enter the generic chemical name in this section only if the following four conditions apply:

1. The amount of the particular mixture or trade name product you "use" exceeds 10,000 pounds or the amount you "process" exceeds the applicable process threshold for the year (i.e., 50,000 lbs. in 1988);
2. You determine that the mixture contains a listed toxic chemical but the only identity you have for that chemical is a generic name;
3. You know either the specific concentration of that toxic chemical component or a maximum concentration figure; and
4. You determine by multiplying the concentration figure by the total annual amount of the whole mixture used (or processed) that you exceed the use or process threshold for that single, generically identified mixture component.

EXAMPLE

Your facility uses 20,000 pounds of a solvent that your supplier has told you contains 80 percent "chlorinated aromatic," their generic name for a chemical subject to reporting under section 313. You therefore know that you have used 16,000 pounds of some listed toxic chemical which exceeds the use threshold. You would file a Form R and enter the name "chlorinated aromatic" in the space provided in Part III, Section 2.

3. Activities and Uses of the Chemical at the Facility

Indicate in this section whether the chemical is manufactured (including imported), processed, or otherwise used at the facility and the general nature of such activities and uses at the facility during the calendar year. Report activities that take place only at your facility, not activities that take place at other facilities involving your products. You must check all the blocks in this section that apply. If you are a manufacturer of the chemical, you must check a and/or b, and at least one of c, d, e, or f. Refer to the definitions of "manufacture," "process," and "otherwise use" in the general information section of these instructions or section 372.3 of the rule for explanations supplementing those provided below.

3.1 Manufacture the Chemical

Check at least one:

a. *Produce* - A chemical included in this category is produced at the facility.

b. *Import* - A chemical included in this category is imported by the facility into the Customs Territory of the United States.

Check at least one:

c. *For on-site use/processing* - A chemical included in this category is produced or imported and then further processed or otherwise used at the same facility. If you check this block you must also check at least one item in 3.2 or 3.3.

d. *For sale/distribution* - A chemical in this category is produced or imported specifically for sale or distribution outside the manufacturing facility.

e. *As a byproduct* - A chemical in this category is produced coincidentally during the production, processing, use, or disposal of another chemical substance or mixture and, following its production, is separated from that other chemical substance or mixture. Chemicals produced and released as a result of waste treatment or disposal are also considered byproducts.

f. *As an impurity* - A chemical in this category is produced coincidentally as a result of the manufacture, processing or use of another chemical but remains primarily in the mixture or product with that other chemical.

3.2 Process the Chemical (incorporative-type activities)

a. *As a reactant* - A natural or synthetic chemical used in chemical reactions for the manufacture of another chemical substance or of a product. Includes, but is not limited to, feedstocks, raw materials, intermediates, and initiators.

b. *As a formulation component* - A chemical added to a product or product mixture prior to further distribution of the product that acts as a performance enhancer during use of the product. Examples of chemicals used in this capacity include, but are not limited to, additives, dyes, reaction diluents, initiators, solvents, inhibitors, emulsifiers, surfactants, lubricants, flame retardants, and rheological modifiers.

c. *As an article component* - A chemical substance that becomes an integral component of an article distributed for industrial, trade, or consumer use. One example is the pigment components of paint applied to a chair that is sold.

d. *Repackaging only* - Processing or preparation of a chemical or product mixture for distribution in commerce in a different form, state, or quantity. This includes, but is not limited to, the transfer of material from a bulk container, such as a tank truck to smaller cans or bottles.

3.3 Otherwise Use the Chemical (non-incorporative-type activities)

a. *As a chemical processing aid* - A chemical that is added to a reaction mixture to aid in the manufacture or synthesis of another chemical substance but is not intended to remain in or become part of the product or product mixture. Examples of such chemicals include, but are not limited to, process solvents, catalysts, inhibitors, initiators, reaction terminators, and solution buffers.

b. *As a manufacturing aid* - A chemical that aids the manufacturing process but does not become part of the resulting product and is not added to the reaction mixture during the manufacture or synthesis of another chemical substance. Examples include, but are not limited to, lubricants, metalworking fluids, coolants, refrigerants, and hydraulic fluids.

c. *Ancillary or other use* - A chemical in this category is used at a facility for purposes other than as a chemical processing aid or manufacturing aid as described above. Includes, but is not limited to, cleaners, degreasers, lubricants, and fuels.

EXAMPLE

In the example below, it is assumed that the threshold quantities for manufacture, process, or otherwise use (50,000 pounds, 50,000 pounds, and 10,000 pounds, respectively, for 1988) have been exceeded and the reporting of listed chemicals is therefore required.

1. Your facility receives toluene and naphthalene (both listed toxic chemicals) from an off-site location. You react the toluene with air to form benzoic acid and react the naphthalene with sulfuric acid, which forms phthalic acid and also produces sulfur dioxide fumes. Your facility processes toluene and naphthalene. Both are used as reactants to produce benzoic acid and phthalic acid, chemicals not on the section 313 list.

   The phthalic acid and benzoic acid are reacted to form a reaction intermediate. The reaction intermediate is dissolved in sulfuric acid, which precipitates terephthalic acid (TPA). Fifty percent of the TPA is sold as a product and 50 percent is further processed at your facility into polyester fiber. The TPA is treated with ethylene glycol to form an intermediate product, which is condensed to polyester.

   Your company manufactures terephthalic acid, a listed chemical, both for sale/distribution as a commercial product and for on-site use/processing as a feedstock in the polyester process. Because it is a reactant, it is also processed.

   Your facility also uses, as well as processes, sulfuric acid, a listed substance, as it serves as a process solvent to precipitate terephthalic acid.

2. The intermediate product, from which the polyester is prepared, contains dimethyl phthalate, a listed substance. The method of reporting this substance depends on its eventual disposition in the polyester production process:

   (a) If the dimethyl phthalate is removed from the intermediate product before it is reacted to form polyester fiber, then dimethyl phthalate is manufactured at your facility as a byproduct.

   (b) If it is incorporated into the polyester fiber in an unreacted form, then it is manufactured at your facility as an impurity.

   (c) If the dimethyl phthalate participates in the reaction to form polyester fiber without leaving the process, then it is processed as a reactant (intermediate), as are the ethylene glycol and terephthalic acid in the process.

   Sections of Part III that have been completed for scenario 2(c), are illustrated on the following page.

3. Your facility operates a fume scrubber that uses sodium hydroxide solution and recovers the sulfur dioxide fumes from the phthalic acid production process as sodium sulfate solution. Both sodium solutions are listed chemicals. Your facility manufactures sodium sulfate as a byproduct and otherwise uses sodium hydroxide.

4. Your facility applies C.I. disperse yellow 3, a listed chemical, to the finished polyester fiber as a dye, which is incorporated into the polyester fiber product and remains in the product after it is sold. Your facility processes the C.I disperse yellow 3 as an article component.

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(Important: Type or print; read instructions before completing form.) Page 3 of 5

EPA	EPA FORM **R** **PART III. CHEMICAL-SPECIFIC INFORMATION**	(This space for your optional use.)

1. CHEMICAL IDENTITY (Do not complete this section if you complete Section 2.)	
1.1	[Reserved]
1.2	CAS Number (Enter the number exactly as it appears on the 313 list. Enter NA if reporting a chemical category.) 131-11-3
1.3	Chemical or Chemical Category Name (Enter the name exactly as it appears on the 313 list.) Dimethyl Phthalate
1.4	Generic Chemical Name (Complete only if Part I, Section 1.1 is checked "Yes." Generic name must be structurally descriptive.)

2.	MIXTURE COMPONENT IDENTITY (Do not complete this section if you complete Section 1.) Generic Chemical Name Provided by Supplier (Limit the name to a maximum of 70 characters (e.g., numbers, letters, spaces, punctuation).)

3. ACTIVITIES AND USES OF THE CHEMICAL AT THE FACILITY (Check all that apply.)				
3.1	Manufacture the chemical:	a. [X] Produce b. [ ] Import	If produce or import: c. [X] For on-site use/processing e. [ ] As a byproduct	d. [ ] For sale/ distribution f. [ ] As an impurity
3.2	Process the chemical:	a. [X] As a reactant d. [ ] Repackaging only	b. [ ] As a formulation component	c. [ ] As an article component
3.3	Otherwise use the chemical:	a. [ ] As a chemical processing aid	b. [ ] As a manufacturing aid	c. [ ] Ancillary or other use

4. Maximum Amount of the Chemical On-Site at Any Time During the Calendar Year

Insert the appropriate code (see below) that indicates the maximum quantity of the chemical (e.g., in storage tanks, process vessels, on-site shipping containers) at your facility at any time during the calendar year. If the chemical was present at several locations within your facility, use the maximum total amount present at the entire facility at any one time.

	Weight Range in Pounds	
Range Code	From...	To....
01	0	99
02	100	999
03	1,000	9,999
04	10,000	99,999
05	100,000	999,999
06	1,000,000	9,999,999
07	10,000,000	49,999,999
08	50,000,000	99,999,999
09	100,000,000	499,999,999
10	500,000,000	999,999,999
11	1 billion	more than 1 billion

If the toxic chemical present at your facility was part of a mixture or trade name product, determine the maximum quantity of the chemical present at the facility by calculating the weight of the toxic chemical only. Do not include the weight of the entire mixture or trade name product. See section 372.30(b) of the reporting rule for further information on how to calculate the weight of the chemical in the mixture or trade name product. For chemical categories (e.g., copper compounds), include all chemicals in the category when calculating the weight of the toxic chemical.

5. Releases of the Chemical to the Environment On-Site

In Section 5, you must account for the total aggregate releases of the toxic chemical to the environment on-site from your facility for the calendar year. Releases to the environment include emissions to the air, discharges to surface waters, and releases to land and underground injection wells. If you have no releases to a particular media (e.g., stack air), enter not applicable, NA; do not leave blank. Check the box on the last line of this section if you use Part IV, the supplemental information sheet.

You are not required to count as a release quantities of a toxic chemical that are lost due to natural weathering or corrosion, normal/natural degradation of a product, or normal migration of a chemical from a product. For example, amounts of a covered toxic chemical that migrate from plastic products in storage do not have to be counted in estimates of releases of that chemical from the facility. Also, amounts of listed metal compounds (e.g., copper compounds) that are lost due to normal corrosion of process equipment do not have to be considered as releases of copper compounds from the facility.

All air releases of the chemical from the facility must be accounted for. Do not enter information on individual emission points or releases. Enter only the total release. If there is doubt about whether an air release is a point or non-point release, you must identify the release as one or the other rather than leave items 5.1 and 5.2 blank. Instructions for columns A, B, and C follow the discussions of Sections 5.1 through 5.5.

5.1 Fugitive or Non-Point Air Emissions

These are releases to the air that are not released through stacks, vents, ducts, pipes, or any other confined air stream. You must include (1) fugitive equipment leaks from valves, pump seals, flanges, compressors, sampling connections, open-ended lines, etc.; (2) evaporative losses from surface impoundments; (3) releases from building ventilation systems; and (4) any other fugitive or non-point air emissions.

5.2 Stack or Point Air Emissions

These are releases to the air that occur through stacks, vents, ducts, pipes, or other confined air streams. You must include storage tank emissions. Air releases from air pollution control equipment would generally fall in this category.

5.3 Discharges to Receiving Streams or Water Bodies

Enter the applicable letter code for the receiving stream or water body from Section 3.10 of Part I of the form. Also, enter the total annual amount of the chemical released from all discharge points at the facility to each receiving stream or water body. Include process outfalls such as pipes and open trenches, releases from on-site wastewater treatment systems, and the contribution from stormwater runoff, if applicable (see instructions for column C below). Do not include discharges to a POTW or other off-site wastewater treatment facilities in this section. These off-site transfers must be reported in Part III, Section 6 of the form.

5.4 Underground Injection

Enter the total annual amount of the chemical that was injected into all wells, including Class I wells, at the facility.

5.5 Releases to Land

Report quantities of the chemical that were landfilled, treated or applied in farming, impounded, or otherwise disposed of at the facility. Do not report land disposal at off-site locations in this section.

For the purpose of this form, a surface impoundment is considered "final disposal." Quantities of the chemical released to surface impoundments that are used merely as part of a wastewater treatment process generally must not be reported in this section of the form. However, if the impoundment accumulates sludges containing the chemical, you must include an estimate in this section unless the sludges are removed and otherwise disposed of (in which case they should be reported under the appropriate section of the form). For the purposes of this reporting, storage tanks are not considered to be a type of disposal and are not to be reported in this section of the form.

A. Total Release

Only on-site releases of the toxic chemical to the environment for the calendar year are to be reported in this section of the form. The total releases from your facility do not include transfers or shipments of the chemical from your facility for sale or distribution in commerce or of wastes to other facilities for treatment or disposal (see Part III, Section 6). Both routine releases, such as fugitive air emissions, and accidental or non-routine releases, such as chemical spills, must be included in your estimate of the quantity released.

Total annual releases or off-site transfers of a toxic chemical from the facility of less than 1 pound may be reported in one of several ways. The fractional figure may be entered in column A.2. However, EPA encourages rounding to the nearest pound. For example, if the estimate is 0.5 pounds or greater, you should either check the range bracket of "1-499" in column A.1 or enter "1" in column A.2. Do not use both columns A.1 and A.2. If the release is less than 0.5 pounds, you may round to zero and check the "0" bracket in A.1. Note that releases of less than 0.5 pounds from the processing or use of an article does not negate the article status of that item. Thus, if the only releases you have are from an article and such releases are less than 0.5 pounds per year, you are not required to submit a report for that chemical.

A.1 Reporting Ranges

For reports submitted for calendar years 1987, 1988 and 1989 only, you may take advantage of range reporting for releases to an environmental medium that are less than 1,000 pounds for the year. If you choose this option, mark one of the three boxes, 0, 1-499, or 500-999, that corresponds to releases of the chemical to the appropriate environmental medium (i.e., any line item). You are not required, however, to use these range check boxes; you have the option of providing a specific figure in column A.2, as described below. However, do not mark a range and also enter a specific estimate in A.2.

For releases to any medium that amount to 1,000 pounds or more for the year, you must provide an estimate in pounds per year in column A.2. Any estimate provided in column A.2 is required to be accurate to no more than two significant digits.

A.2 Enter Estimate

If you do not use the range reporting option, provide your estimates of releases in pounds for the year in column A.2. This estimate is required to be rounded to no more than two significant digits.

Calculating Releases - To provide the release information required in both columns A.1 and A.2 in this section of the form, you must use all readily available data (including relevant monitoring data and emissions measurements) collected at your facility pursuant to other provisions of law or as part of routine plant operations, to the extent you have such data for the toxic chemical.

When relevant monitoring data or emission measurements are not readily available, reasonable estimates of the amounts released must be made using published emission factors, material balance calculations, or engineering calculations. You may not use emission factors or calculations to estimate releases if more accurate data are available.

No additional monitoring or measurement of the quantities or concentrations of any toxic chemical released into the environment, or of the frequency of such releases, is required for the purpose of completing this form, beyond that which is required under other provisions of law or regulation or as part of routine plant operations.

You must estimate as accurately as possible the quantity in pounds of the chemical or chemical category that is released annually to each environmental medium. Include only the quantity of the toxic chemical component of the waste stream in this estimate. If the toxic chemical present at your facility was part of a mixture or trade name product, calculate only the releases of the chemical. Do not report releases of the other components of the mixture or trade name product. If you are only able to estimate the releases of the mixture or trade name product as a whole, you must assume that the release of the toxic chemical is proportional to its concentration in the mixture or trade name product. See section 372.30(b) of the reporting rule (Appendix G) for further information on how to calculate the concentration and weight in the mixture or trade name product.

If you are reporting a chemical category listed in Table II of these instructions, rather than a specific chemical, you must combine the release data for all chemicals in the listed chemical category (e.g., all glycol ethers or all chlorophenols) and report the aggregate amount for that chemical category. Do not report releases of each individual chemical in that category separately. For example, if your facility releases 3,000 pounds per year of 2-chlorophenol, 4,000 pounds per year of 3-chlorophenol, and 4,000 pounds per year of 4-chlorophenol, you should report that your facility releases 11,000 pounds per year of chlorophenols.

For listed chemicals with the qualifier "solution," such as sodium sulfate, at concentrations of 1 percent (or 0.1 percent in the case of a carcinogen) or greater, the chemical concentrations must be factored into threshold and release calculations because threshold and release amounts relate to the amount of chemical in solution, not the amount of solution.

For metal compound categories (e.g., chromium compounds), report releases of only the parent metal. For example, a user of various inorganic chromium salts would report the total chromium released in each waste type regardless of the chemical form (e.g., as the original salts, chromium ion, oxide) and exclude any contribution to mass made by other species in the molecule.

EXAMPLE

Your facility disposes of 14,000 pounds of lead chromate ($PbCrO_4 \cdot PbO$) and 15,000 pounds of zinc dichromate ($ZnCr_2O_7 3H_2O$) in an on-site landfill and transfers 16,000 pounds of lead selenate ($PbSeO_4$) to an off-site land disposal facility. You would therefore be submitting four separate reports on the following: lead compounds, zinc compounds, selenium compounds, and chromium compounds. However, the quantities you would be reporting would be the pounds of "parent" metal being released or transferred off-site. All quantities are based on mass balance calculations (See Section 5.B for information on Basis of Estimate and Section 6.C for treatment/disposal codes and information on transfers of chemical wastes). You would calculate releases of lead, zinc, chromium, and selenium by first determining the percentage by weight of these metals in the materials you use as follows:

Lead Chromate ($PbCrO_4 \cdot PbO$) -
Molecular weight = 546.37
Lead 2 Pb -
Molecular weight = 207.2 x 2 = 414.4
Chromate 1 Cr -
Molecular weight = 51.996

Lead chromate is therefore (% by weight)
(414.4/546.37) = 75.85% lead and (51.996/546.37) = 9.52% chromium

You can then calculate the total amount of the metals that you must report.

14,000 pounds of lead chromate contains:
14,000 x 0.7585 = 10,619 lbs of lead
14,000 x 0.0952 = 1,332.8 lbs of chromium

Similarly, zinc dichromate is (65.38/335.4) = 19.49% zinc and (51.996 x 2/335.4) = 31.01% chromium, and lead selenate is (207.2/350.17) = 59.17% lead and (78.96/350.17) = 22.55% selenium.

The total pounds of lead, chromium, zinc, and selenium released or transferred from your facility are as follows:

Lead

Release:
0.7585 x 14,000 = 10,619.0 lbs from lead chromate (round to 11,000 lbs)

Transfer:
0.5917 x 16,000 = 9,467.2 lbs from lead selenate (round to 9,500 lbs)

As an example, the releases and transfers of lead should be reported as illustrated on the next page.

Chromium

Release:
0.0952 x 14,000 = 1,332.8 lbs from lead chromate (round to 1,300 lbs)

Release:
0.3101 x 15,000 = 4,651.5 lbs from zinc dichromate (round to 4,700 lbs)

Zinc

Release:
0.1949 x 15,000 = 2,923.5 lbs from zinc dichromate (round to 2,900 lbs)

Selenium

Transfer:

0.2255 x 16,000 = 3,608.0 lbs of selenium from lead selenate (round to 3,600 lbs)

B. Basis of Estimate

For each release estimate, you are required to indicate the principal method by which the quantity was derived. Enter a letter code from below that identifies the method that applies to the largest portion of the total estimated quantity. EPA requires that decimal fractions be rounded to no more than two significant digits when reporting releases.

For example, if 40 percent of stack emissions of the reported substance were derived using monitoring data, 30 percent by mass balance, and 30 percent by emission factors, you would enter the code letter "M" for monitoring. The codes are as follows:

M -Estimate is based on monitoring data or measurements for the toxic chemical as released to the environment and/or off-site facility.

C -Estimate is based on mass balance calculations, such as calculation of the amount of the toxic chemical in streams entering and leaving process equipment.

E -Estimate is based on published emission factors, such as those relating release quantity to through-put or equipment type (e.g., air emission factors).

O -Estimate is based on other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgment. This would include applying an estimated removal efficiency to a waste stream, even if the composition of the stream before treatment was fully characterized by monitoring data.

If the monitoring data, mass balance, or emission factor used to estimate the release is not specific to the toxic chemical being reported, the form should identify the estimate as based on engineering calculations or judgment.

If a mass balance calculation yields the flow rate of a waste stream, but the quantity of reported chemical in the waste stream is based on solubility data, report "O" because "engineering calculations" were used as the basis of estimate of the quantity of the chemical in the waste stream.

If the concentration of the chemical in the waste stream was measured by monitoring equipment and the flow rate of the waste stream was determined by mass balance, then the primary basis of estimate is "monitoring" (M) even though a mass balance calculation also contributed to the estimate. "Monitoring" should be indicated because monitoring data was used to estimate the concentration of the waste stream.

Mass balance (C) should only be indicated if it is directly used to calculate the mass (weight) of chemical released. Monitoring data should be indicated as the basis of estimate only if the chemical concentration is measured in the waste stream being released into the environment as opposed to measured in other process streams containing the chemical.

C. Percent From Stormwater

This column relates only to Section 5.3 - Discharges to receiving streams or water bodies. If your facility has monitoring data on the amount of the chemical in stormwater runoff (including unchanneled runoff), you must include that quantity of the chemical in your water release in column A and indicate the percentage of the total quantity (by weight) of the chemical contributed by stormwater in column C (5.3c).

If your facility has monitoring data on the chemical and an estimate of flow rate, you must use this data to determine the percent stormwater.

If you have monitored stormwater but did not detect the chemical, enter zero (0) in column C. If your facility has no stormwater monitoring data for the chemical, enter not applicable, NA, in this space on the form.

1. CHEMICAL IDENTITY(Do not complete this section if you complete Section 2.)	
1.1	[Reserved]
1.2	CAS Number (Enter the number exactly as it appears on the 313 list. Enter NA if reporting a chemical category.) NA
1.3	Chemical or Chemical Category Name (Enter the name exactly as it appears on the 313 list.) Lead Compounds
1.4	Generic Chemical Name (Complete only if Part I, Section 1.1 is checked "Yes." Generic name must be structurally descriptive.)

2.	MIXTURE COMPONENT IDENTITY (Do not complete this section if you complete Section 1.) Generic Chemical Name Provided by Supplier (Limit the name to a maximum of 70 characters (e.g., numbers, letters, spaces, punctuation).)

5. RELEASES OF THE CHEMICAL TO THE ENVIRONMENT ON-SITE

You may report releases of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)		A. Total Release (lbs/yr) A.1 Reporting Ranges 0	1-499	500-999	A.2 Enter Estimate	B. Basis of Estimate (enter code)	
5.1 Fugitive or non-point air emissions	5.1a	[ ]	[ ]	[ ]	NA	5.1b ☐	
5.2 Stack or point air emissions	5.2a	[ ]	[ ]	[ ]	NA	5.2b ☐	C. % From Stormwater
5.3 Discharges to receiving streams or water bodies 5.3.1 ☐	5.3.1a	[ ]	[ ]	[ ]	NA	5.3.1b ☐	5.3.1c NA
(Enter letter code from Part I Section 3.10 for stream(s) in the box provided.) 5.3.2 ☐	5.3.2a	[ ]	[ ]	[ ]		5.3.2b ☐	5.3.2c
5.3.3 ☐	5.3.3a	[ ]	[ ]	[ ]		5.3.3b ☐	5.3.3c
5.4 Underground injection	5.4a	[ ]	[ ]	[ ]	NA	5.4b ☐	
5.5 Releases to land 5.5.1 On-site landfill	5.5.1a	[ ]	[ ]	[ ]	11,000	5.5.1b C	
5.5.2 Land treatment/application farming	5.5.2a	[ ]	[ ]	[ ]	NA	5.5.2b ☐	
5.5.3 Surface impoundment	5.5.3a	[ ]	[ ]	[ ]	NA	5.5.3b ☐	
5.5.4 Other disposal	5.5.4a	[ ]	[ ]	[ ]	NA	5.5.4b ☐	

[ ] (Check if additional information is provided on Part IV-Supplemental Information.)

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(Important: Type or print; read instructions before completing form.)

EPA

EPA FORM R

PART III. CHEMICAL-SPECIFIC INFORMATION (continued)

(This space for your optional use.)

6. TRANSFERS OF THE CHEMICAL IN WASTE TO OFF-SITE LOCATIONS

You may report transfers of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)	A. Total Transfers (lbs/yr) A.1 Reporting Ranges 0	1-499	500-999	A.2 Enter Estimate	B. Basis of Estimate (enter code)	C. Type of Treatment/Disposal (enter code)
6.1.1 Discharge to POTW (enter location number from Part II, Section 1.) 1 . ☐	[ ]	[ ]	[ ]	NA	6.1.1b ☐	
6.2.1 Other off-site location (enter location number from Part II, Section 2.) 2 . 1	[ ]	[ ]	[ ]	9,500	6.2.1b C	6.2.1c M 7 2
6.2.2 Other off-site location (enter location number from Part II, Section 2.) 2 . ☐	[ ]	[ ]	[ ]	NA	6.2.2b ☐	6.2.2c M ☐ ☐
6.2.3 Other off-site location (enter location number from Part II, Section 2.) 2 . ☐	[ ]	[ ]	[ ]		6.2.3b ☐	6.2.3c M ☐ ☐

[ ] (Check if additional information is provided on Part IV-Supplemental Information.)

EXAMPLE

Bi-monthly stormwater monitoring data shows that the average concentration of zinc in the stormwater runoff from your facility from a biocide containing a zinc compound is 1.4 milligrams per liter, and the total annual stormwater discharge from the facility is 7.527 million gallons. The total amount of zinc discharged to surface water through the plant wastewater discharge (non-stormwater) is 250 pounds per year. The total amount of zinc discharged with stormwater is:

(7,527,000 gallons stormwater) x (3.785 liters/gallon)
= 28,489,695 liters stormwater

(28,489,695 liters stormwater) x (1.4 mg. zinc/liter)
= 39,885.6 g zinc
= 87.9 lbs zinc

The total amount of zinc discharged from all sources of your facility is:

250	lbs zinc from wastewater discharge
+87.9	lbs zinc from stormwater runoff
337.9	lbs zinc total water discharge

Round to 340 lbs. of zinc for report.

The percentage of zinc discharged through stormwater is:

87.9/337.9 x 100 = 26%

If your facility does not have periodic measurements of stormwater releases of the chemical, but has submitted chemical-specific monitoring data in permit applications, then these data must be used to calculate the percent contribution from stormwater. Rates of flow can be estimated by multiplying the annual amount of rainfall by the land area of the facility and then multiplying that figure by the runoff coefficient. The runoff coefficient represents the fraction of rainfall that does not infiltrate into the ground but runs off as stormwater. The runoff coefficient is directly related to how the land in the drainage area is used. (See table below.)

Description of Land Area	Runoff Coefficient
Business	
Downtown areas	0.70-0.95
Neighborhood areas	0.50-0.70
Industrial	
Light areas	0.50-0.80
Heavy areas	0.60-0.90
Railroad yard areas	0.20-0.40
Unimproved areas	0.10-0.30
Streets	
Asphaltic	0.70-0.95
Concrete	0.80-0.95
Brick	0.70-0.85
Drives and walks	0.70-0.85
Roofs	0.75-0.95
Lawns: Sandy Soil	
Flat, 2%	0.05-0.10
Average, 2-7%	0.10-0.15
Steep, 7%	0.15-0.20
Lawns: Heavy Soil	
Flat, 2%	0.13-0.17
Average, 2-7%	0.18-0.22
Steep, 7%	0.25-0.35

Choose the most appropriate runoff coefficient for your site or calculate a weighted-average coefficient, which takes into account different types of land use at your facility:

$$\text{Weighted-average runoff coefficient} = \frac{\text{Area}_1 C_1 + \text{Area}_2 C_2 + \ldots\ldots\ldots\ A_i C_i}{\text{Total Site Area}}$$

where C_i = runoff coefficient for a specific land use of Area_i.

EXAMPLE

Your facility is located in a semi-arid region of the United States which has an annual precipitation (including snowfall) of 12 inches of rain. (Snowfall should be converted to the equivalent inches of rain; assume one foot of snow is equivalent to one inch of rain.) The area covered by your facility is 42 acres (about 170,000 square meters or 1,829,520 square feet). The area of your facility is 50 percent unimproved area, 10 percent asphaltic streets, and 40 percent concrete pavement.

The total stormwater runoff from your facility is therefore calculated as follows:

Land Use	% Area	Runoff Coefficient
Unimproved area	50	0.20
Asphaltic streets	10	0.85
Concrete pavement	40	0.90

$$\text{Weighted-average runoff coefficient} = \frac{(50\%) \times (0.20) + (10\%) \times (0.85) + (40\%) \times (0.90)}{100\%\ \text{Area}}$$

= 0.545

(Rainfall) x (land area) x (conversion factor) x (runoff coefficient) = stormwater runoff

(1 foot) x (1,829,520 ft^2) x (7.48 gal/ft^3) x (0.545)
= 7,458,221 gallons/year

Total stormwater runoff = 7.45 million gallons/year

6. Transfers of the Chemical in Waste to Off-Site Locations

You must report in this section the total annual quantity of the chemical sent to any of the off-site disposal, treatment, or storage facilities for which you have provided an address in Part II. You are not required to report quantities of the chemical sent off-site for purposes of recycle or reuse.

On line 6.1.1, report the amount of the listed chemical transferred to a POTW listed in Part II, Section 1. In the block provided, enter the number from Part II, Section 1 corresponding to the POTW to which the discharge is sent. For example, if the discharge is sent to the location listed in Part II, Section 1.1, then enter "1" in the block provided (the first digit of this section number has been precoded). If you transfer waste containing the toxic chemical to more than one POTW, check the box at the bottom of Section 6 and use the Part IV, the supplemental information sheet to report these transfers.

On lines 6.2.1 through 6.2.3, report the amount of the chemical transferred to other off-site locations corresponding to those listed in Part II, Sections 2.1 through 2.6, including privately owned wastewater treatment facilities. In the block provided, enter the number from Part II, Section 2 corresponding to the off-site location to which the transfer is sent. For example, if the transfer is sent to the location listed in Part II, Section 2.3, enter "3" in the block provided (the first digit of this section number has been precoded). If you need additional space, check the box at the bottom of Section 6 and use the supplemental information sheet (Part IV, Section 6) to report these transfers.

A. Total Transfers

Follow the instructions for providing estimates as presented in the instructions for column A of Section 5 above. Enter the amount, in pounds, of the toxic chemical that is being transferred, including mixtures or trade name products containing the chemical. Do not enter the total poundage of wastes. See Section 5 for information on reporting off-site transfers of less than 1 pound. As in Section 5, if the total amount transferred is less than 1,000 pounds, you may report a range, but only for reporting years 1987, 1988, and 1989. Enter not applicable, NA, if you have no off-site transfers.

B. Basis of Estimate

You must identify the basis for your estimate. Enter the letter code that applies to the method by which the largest percentage of the estimate was derived. Use the same codes identified in the instructions for column B of Section 5.

C. Type of Treatment/Disposal

Enter one of the following codes to identify the type of treatment or disposal method used by the off-site location for the chemical being reported. You should use more than one line for a single location when the toxic chemical is subject to different disposal methods; the same location code may be used more than once. You may have this information in your copy of EPA Form SO, Item S of the Annual/Biennial Hazardous Waste Treatment, Storage, and Disposal Report (RCRA). Applicable codes for this Section 6(c) are as follows:

M10	Storage Only
M40	Solidification/Stabilization
M50	Incineration/Thermal Treatment
M61	Wastewater Treatment (Excluding POTW)
M69	Other Treatment
M71	Underground Injection
M72	Landfill/Disposal Surface Impoundment
M73	Land Treatment
M79	Other Land Disposal
M90	Other Off-Site Management
M91	Transfer to Waste Broker
M99	Unknown

7. Waste Treatment Methods and Efficiency

In Section 7, you must provide the following information related to the chemical for which releases are being reported: (A) the general waste stream types containing the chemical being reported; (B) the waste-treatment methods used on all waste streams containing the chemical; (C) the range of concentrations of the chemical in the influent to the treatment method; (D) whether sequential treatment is used; (E) the efficiency or effectiveness of each treatment method in removing the chemical; and (F) whether the treatment efficiency figure was based on actual operating data. Use a separate line in Section 7 for each treatment method used on a waste stream. Report in this section only information about treatment of waste streams at your facility, not about off-site treatment. If you do not perform on-site treatment of wastes, enter not applicable, NA, in 7.1b.

A. General Waste Stream

For each waste treatment method, indicate the type of waste stream containing the chemical that is treated. Enter the letter code that corresponds to the general waste stream type:

A = Gaseous (gases, vapors, airborne particulates)
W = Wastewater (aqueous waste)
L = Liquid waste (non-aqueous waste)
S = Solid waste (including sludges and slurries)

If a waste is a mixture of water and organic liquid, you must report it as wastewater unless the organic content exceeds 50 percent. Slurries and sludges containing water must be reported as solid waste if they contain appreciable amounts of dissolved solids, or solids that may settle, such that the viscosity or density of the waste is considerably different from that of process wastewater.

B. Treatment Method

Enter the appropriate code from one of the lists below for each treatment method used on a waste stream containing the toxic chemical, regardless of whether the treatment method actually removes the specific chemical being reported. Treatment methods must be reported for each type of waste being treated (i.e., gaseous wastes, aqueous wastes, liquid non-aqueous wastes, and solids).

Waste streams containing the chemical may have a single source or may be aggregates of many sources. For example, process water from several pieces of equipment at your facility may be combined prior to treatment. Report treatment methods that apply to the aggregate waste stream, as well as treatment methods that apply to individual waste streams. If your facility treats various wastewater streams containing the chemical in different ways, the different treatment methods must each be listed separately.

Your facility may have several pieces of equipment performing a similar service and for such equipment you may combine the reporting on a single line. It is not necessary to enter four lines of data to cover four scrubber units, for example, if all four are treating wastes of similar character (e.g., sulfuric acid mist emissions), have similar influent concentrations, and have similar removal efficiencies. If, however, any of these parameters differ from one unit to the next, each scrubber must be listed separately.

Air Emissions Treatment

A01	Flare
A02	Condenser
A03	Scrubber
A04	Absorber
A05	Electrostatic Precipitator
A06	Mechanical Separation
A07	Other Air Emission Treatment

Biological Treatment

B11	Biological Treatment -- Aerobic
B21	Biological Treatment -- Anaerobic
B31	Biological Treatment -- Facultative
B99	Biological Treatment -- Other

Chemical Treatment

C01	Chemical Precipitation -- Lime or Sodium Hydroxide
C02	Chemical Precipitation -- Sulfide
C09	Chemical Precipitation -- Other
C11	Neutralization
C21	Chromium Reduction
C31	Complexed Metals Treatment (other than pH Adjustment)
C41	Cyanide Oxidation -- Alkaline Chlorination
C42	Cyanide Oxidation -- Electrochemical
C43	Cyanide Oxidation -- Other
C44	General Oxidation (including Disinfection) -- Chlorination
C45	General Oxidation (including Disinfection) -- Ozonation
C46	General Oxidation (including Disinfection) -- Other
C99	Other Chemical Treatment

Incineration/Thermal Treatment

F01	Liquid Injection
F11	Rotary Kiln with Liquid Injection Unit
F19	Other Rotary Kiln
F31	Two Stage
F41	Fixed Hearth
F42	Multiple Hearth
F51	Fluidized Bed
F61	Infra-Red
F71	Fume/Vapor
F81	Pyrolytic Destructor
F82	Wet Air Oxidation
F83	Thermal Drying/Dewatering
F99	Other Incineration/Thermal Treatment

Physical Treatment

P01	Equalization
P09	Other Blending
P11	Settling/Clarification
P12	Filtration
P13	Sludge Dewatering (non-thermal)
P14	Air Flotation
P15	Oil Skimming
P16	Emulsion Breaking -- Thermal
P17	Emulsion Breaking -- Chemical
P18	Emulsion Breaking -- Other
P19	Other Liquid Phase Separation
P21	Adsorption -- Carbon
P22	Adsorption -- Ion Exchange (other than for recovery/reuse)
P23	Adsorption -- Resin
P29	Adsorption -- Other
P31	Reverse Osmosis (other than for recovery/reuse)
P41	Stripping -- Air
P42	Stripping -- Steam
P49	Stripping -- Other
P51	Acid Leaching (other than for recovery/reuse)
P61	Solvent Extraction (other than recovery/reuse)
P99	Other Physical Treatment

Recovery/Reuse

R01	Reuse as Fuel -- Industrial Kiln
R02	Reuse as Fuel -- Industrial Furnace
R03	Reuse as Fuel -- Boiler
R04	Reuse as Fuel -- Fuel Blending
R09	Reuse as Fuel -- Other
R11	Solvents/Organics Recovery -- Batch Still Distillation
R12	Solvents/Organics Recovery -- Thin-Film Evaporation
R13	Solvents/Organics Recovery -- Fractionation
R14	Solvents/Organics Recovery -- Solvent Extraction
R19	Solvents/Organics Recovery -- Other
R21	Metals Recovery -- Electrolytic
R22	Metals Recovery -- Ion Exchange
R23	Metals Recovery -- Acid Leaching
R24	Metals Recovery -- Reverse Osmosis
R26	Metals Recovery -- Solvent Extraction
R29	Metals Recovery -- Other
R99	Other Reuse or Recovery

Solidification/Stabilization

G01	Cement Processes (including Silicates)
G09	Other Pozzolonic Processes (including Silicates)
G11	Asphaltic Processes
G21	Thermoplastic Techniques
G99	Other Solidification Processes

C. Range of Influent Concentration

The form requires an indication of the range of concentration of the toxic chemical in the waste stream (i.e., the influent) as it typically enters the treatment equipment. Enter in the space provided one of the following code numbers corresponding to the concentration of the chemical in the influent:

1 = Greater than 1 percent
2 = 100 parts per million (0.01 percent) to 1 percent (10,000 parts per million)
3 = 1 part per million to 100 parts per million
4 = 1 part per billion to 1 part per million
5 = Less than 1 part per billion

[Note: Parts per million (ppm) is milligrams/kilogram (mass/mass) for solids and liquids; cubic centimeters/ cubic meter (volume/volume) for gases; milligrams/liter for solutions or dispersions of the chemical in water; and milligrams of chemical/kilogram of air for particulates in air. If you have particulate concentrations (at standard temperature and pressure) as grains/cubic foot of air, multiply by 1766.6 to convert to parts per million; if in milligrams/cubic meter, multiply by 0.773 to obtain parts per million. Factors are for standard conditions of 0°C (32°F) and 760 mmHg atmospheric pressure.]

D. Sequential Treatment?

The blocks in this column may be used in the following case:

- ☐ Individual treatment steps are used in a series to treat the chemical, but
- ☐ You have no data on the individual efficiencies of each step, but you are able to estimate the overall efficiency of the treatment sequence.

If this is the case, then you may do the following:

- ☐ List the appropriate codes for the treatment steps in order (column B) and then put an "X" in the boxes in column D for all these sequential treatment steps.
- ☐ Enter the appropriate code for the influent concentration (column C) for only the first treatment step in the sequence. Leave this item blank for the rest of the treatment steps in the sequence only . Enter NA in column E for the efficiency of preceding steps in the sequence.
- ☐ Provide the treatment efficiency (column E) for the entire sequence by entering that value in connection with the last treatment step in the sequence only. Enter NA in column E for the efficiency of preceding steps in the sequence.

An example of how to use the sequential treatment option is provided in Appendix A (page 47).

E. Treatment Efficiency Estimate

In the space provided, enter the number indicating the percentage of the toxic chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. The treatment efficiency (expressed as percent removal) represents the mass or weight percentage of chemical destroyed or removed, not merely changes in volume or concentration of the chemical or the waste stream. The efficiency refers only to the percent conversion or removal of the listed toxic chemical from the waste stream, not the percent conversion or removal of other waste stream constituents (alone or together with the listed chemical), and not the general efficiency of the method for any waste stream. For some treatments, the percent removal will represent removal by several mechanisms, as in secondary wastewater treatment, where a chemical may evaporate, be biodegraded, or be physically removed in the sludge.

Percent removal must be calculated as follows:

$$\frac{I - E}{I} \times 100$$

where I = mass of the chemical in the influent waste stream and E = mass of the chemical in the effluent waste stream.

☐ Mark yes or no in column F only in connection with the final step in the sequence. Do not mark in this column for proceeding steps in the sequence.

Calculate the mass or weight of chemical in the waste stream being treated by multiplying the concentration (by weight) of the chemical in the waste stream by the flow rate. In most cases, the percent removal compares the treated effluent to the influent for the particular type of waste stream. However, for some treatment methods, such as incineration or solidification of wastewater, the percent removal of the chemical from the influent waste stream would be reported as 100 percent because the waste stream does not exist in a comparable form after treatment. Some of the treatments (e.g., fuel blending and evaporation) do not destroy, chemically convert, or physically remove the chemical from its waste stream. For these treatment methods, an efficiency of zero must be reported.

For metal compounds, the calculation of the reportable concentration and treatment efficiency is based on the weight of the parent metal, not on the weight of the metal compounds. Metals are not destroyed, only physically removed or chemically converted from one form into another. The treatment efficiency reported represents only physical removal of the parent metal from the waste stream, not the percent chemical conversion of the metal compound. If a listed treatment method converts but does not remove a metal (e.g., chromium reduction), the method must be reported, but the treatment efficiency must be reported as zero.

All data available at your facility must be utilized to calculate treatment efficiency and influent chemical concentration. You are not required to collect any new data for the purposes of this reporting requirement. If data are lacking, estimates must be made using best engineering judgment or other methods.

F. Based on Operating Data?

This column requires you to indicate "Yes" or "No" to whether the treatment efficiency estimate is based on actual operating data. For example, you would check "Yes" if the estimate is based on monitoring of influent and effluent wastes under typical operating conditions. For sequential treatment, do not indicate "Yes" or "No" in column F for a treatment step unless you have provided a treatment estimate in column E.

If the efficiency estimate is based on published data for similar processes or on equipment supplier's literature, or if you otherwise estimated either the influent or effluent waste comparison or the flow rate, check "No."

EXAMPLE

Your facility produces several different waste streams treated on-site and transferred to off-site facilities. You have previously indicated, in Part II, Section 2.1, of Form R, the location of the off-site facilities and the quantity of each reported chemical transferred to off-site facilities in Part III, Section 6.2.1, of the form, using a separate form for each chemical. One waste stream generated by your facility is aqueous waste containing lead chromate, zinc dichromate, and lead selenate as discussed in a previous example in these instructions. In this example, the waste is transferred to off-site facilities after on-site wastewater treatment. The on-site wastewater treatment plant precipitates metal sludges. The wastewater is first treated with sulfuric acid and sodium disulfate to reduce the hexavalent chromate to trivalent chromium and then treated with lime to raise the pH. This precipitates chromium hydroxide, zinc hydroxide, and lead hydroxide, but does not remove the selenium. The selenium is removed from the wastewater by an ionic exchange system. The chromium, zinc, and lead hydroxide sludge (solid) waste is transferred to an off-site land disposal facility and the selenium-containing ion exchange resin is transferred to an off-site facility for metal recovery (off-site recovery should not be reported). The treated wastewater is sent to a POTW after neutralization. You would indicate the following treatment methods for the on-site treatment of each of the lead, zinc, chromium, and selenium compounds:

C21 - Chromium Reduction
C01 - Chemical Precipitation -- Lime or Sodium Hydroxide
R22 - Metals Recovery -- Ion Exchange
C11 - Neutralization

All sequential treatment steps must be indicated for all the metal compound categories reported even if the treatment method does not affect the particular metal. For example, ionic exchange must be reported as a treatment method for lead, zinc, chromium, and selenium compounds, even though the method affects only the selenium compound.

You would calculate the percent removal of chromium, lead, zinc, and selenium, by subtracting the amount of each metal in the wastewater discharge from the amount of each metal in the wastewater before treatment, and then dividing by the amount of each metal in the wastewater before treatment.

You would indicate a discharge to a POTW in Part III, Section 6.1.1 and the location of the POTW in Part II, Section 1.1. You would also indicate the release of the metal sludge to an off-site land disposal facility in Part III, Section 6.2.1.

8. Optional Information on Waste Minimization

Information provided in Part III, Section 8, of Form R is optional. In this section, you may identify waste minimization efforts relating to the reported toxic chemical that may not have been reflected in your responses to previous sections of the form. Waste minimization reduces the amount of the chemical in wastes that are generated. Treatment or disposal does not minimize waste, but recycling or reuse of a waste should be counted as waste minimization. Waste minimization applies to air emissions and wastewater, as well as to liquid or solid materials that are released, disposed of, or treated. For example, a program to recycle material from reactor cleaning could reduce the amount of a listed chemical in wastewater prior to treatment. This reduction might not show up in annual reports of releases to receiving streams (due to effective treatment, for example) but would be captured in this section.

A. Type of Modification

Enter from the following list the one code that best describes the type of waste minimization activity:

M1	Recycling/Reuse On-Site
M2	Recycling/Reuse Off-Site
M3	Equipment/Technology Modifications
M4	Process Procedure Modifications
M5	Reformulation/Redesign of Product
M6	Substitution of Raw Materials
M7	Improved Housekeeping, Training, Inventory Control
M8	Other Waste Minimization Technique

B. Quantity of the Chemical in the Wastestream Prior to Treatment/Disposal

Enter the pounds of the toxic chemical contained in all wastes in the reporting year and the pounds contained in all wastes in the year prior to the reporting year. Alternatively, to protect confidential information, you may wish to enter only the percentage by which the weight of the chemical in the wastes has changed. This figure may be calculated using the following formula:

$$\frac{(\text{toxic chemical in wastes in reporting year - toxic chemical in wastes in prior year})}{\text{toxic chemical in wastes in prior year}} \times 100$$

The resulting figure may be either negative or positive (i.e., if the amount of waste generated has been reduced, a negative number should be reported).

C. Index

Enter the ratio of reporting-year production to production in the year prior to the reporting year. This index should be calculated to most closely reflect activities involving the chemical. The index provides a means for users of the data to distinguish effects due to changes in business activity from the effects specifically due to waste minimization efforts. It is not necessary to indicate the units on which the index is based. Examples of acceptable indices include:

☐ Amount of chemical produced in 1988/amount of chemical produced in 1987. For example, a company manufactures 200,000 pounds of a chemical in 1987 and 250,000 pounds of the same chemical in 1988. The index figure to report would be 1.3 (1.25 rounded to two significant digits).

☐ Amount of paint produced in 1988/amount of paint produced in 1987.

☐ Number of appliances coated in 1988/number of appliances coated in 1987.

☐ Square feet of solar collector fabricated in 1988/square feet of solar collector fabricated in 1987.

D. Reason for Action

Finally, enter the codes from the following list that best describe the reason for initiating the waste minimization effort:

R1	Regulatory Requirement for the Waste
R2	Reduction of Treatment/Disposal Costs
R3	Other Process Cost Reduction
R4	Self-Initiated Review
R5	Other (e.g., discontinuation of product, occupational safety).

TABLE I

SIC CODES 20-39

20 Food and Kindred Products

2011	Meat packing plants
2013	Sausages and other prepared meat products
2015	Poultry slaughtering and processing
2021	Creamery butter
2022	Natural, processed, and imitation cheese
2023	Dry, condensed, and evaporated dairy products
2024	Ice cream and frozen desserts
2026	Fluid milk
2032	Canned specialties
2033	Canned fruits, vegetables, preserves, jams, and jellies
2034	Dried and dehydrated fruits, vegetables, and soup mixes
2035	Pickled fruits and vegetables, vegetable sauces and seasonings, and salad dressings
2037	Frozen fruits, fruit juices, and vegetables
2038	Frozen specialties, n.e.c.*
2041	Flour and other grain mill products
2043	Cereal breakfast foods
2044	Rice milling
2045	Prepared flour mixes and doughs
2046	Wet corn milling
2047	Dog and cat food
2048	Prepared feeds and feed ingredients for animals and fowls, except dogs and cats
2051	Bread and other bakery products, except cookies and crackers
2052	Cookies and crackers
2053	Frozen bakery products, except bread
2061	Cane sugar, except refining
2062	Cane sugar refining
2063	Beet sugar
2064	Candy and other confectionary products
2066	Chocolate and cocoa products
2067	Chewing gum
2068	Salted and roasted nuts and seeds
2074	Cottonseed oil mills
2075	Soybean oil mills
2076	Vegetable oil mills, except corn, cottonseed, and soybean
2077	Animal and marine fats and oils
2079	Shortening, table oils, margarine, and other edible fats and oils, n.e.c.*
2082	Malt beverages
2083	Malt
2084	Wines, brandy, and brandy spirits
2085	Distilled and blended liquors
2086	Bottled and canned soft drinks and carbonated waters
2087	Flavoring extracts and flavoring syrups, n.e.c.*
2091	Canned and cured fish and seafoods
2092	Prepared fresh or frozen fish and seafoods
2095	Roasted coffee
2096	Potato chips, corn chips, and similar snacks
2097	Manufactured ice
2098	Macaroni, spaghetti, vermicelli, and noodles
2099	Food preparations, n.e.c.*

21 Tobacco Products

2111	Cigarettes
2121	Cigars
2131	Chewing and smoking tobacco and snuff
2141	Tobacco stemming and redrying

22 Textile Mill Products

2211	Broadwoven fabric mills, cotton
2221	Broadwoven fabric mills, manmade fiber, and silk
2231	Broadwoven fabric mills, wool (including dyeing and finishing)
2241	Narrow fabric and other smallwares mills: cotton, wool, silk, and manmade fiber
2251	Women's full length and knee length hosiery, except socks
2252	Hosiery, n.e.c.*
2253	Knit outerwear mills
2254	Knit underwear and nightwear mills
2257	Weft knit fabric mills
2258	Lace and warp knit fabric mills
2259	Knitting mills, n.e.c.*
2261	Finishers of broadwoven fabrics of cotton
2262	Finishers of broadwoven fabrics of manmade fiber and silk
2269	Finishers of textiles, n.e.c.*
2273	Carpets and rugs
2281	Yarn spinning mills
2282	Yarn texturizing, throwing, twisting, and winding mills
2284	Thread mills
2295	Coated fabrics, not rubberized
2296	Tire cord and fabrics
2297	Nonwoven fabrics
2298	Cordage and twine
2299	Textile goods, n.e.c.*

23 Apparel and Other Finished Products made from Fabrics and Other Similar Materials

2311	Men's and boys' suits, coats, and overcoats

2321	Men's and boys' shirts, except work shirts
2322	Men's and boys' underwear and nightwear
2323	Men's and boys' neckwear
2325	Men's and boys' separate trousers and slacks
2326	Men's and boys' work clothing
2329	Men's and boys' clothing, n.e.c.*
2331	Women's, misses', and juniors' blouses and shirts
2335	Women's, misses', and juniors' dresses
2337	Women's, misses', and juniors' suits, skirts, and coats
2339	Women's, misses', and juniors', outerwear, n.e.c.*
2341	Women's, misses', children's, and infants' underwear and nightwear
2342	Brassieres, girdles, and allied garments
2353	Hats, caps, and millinery
2361	Girls', children's and infants' dresses, blouses, and shirts
2369	Girls', children's and infants' outerwear, n.e.c.*
2371	Fur goods
2381	Dress and work gloves, except knit and all leather
2384	Robes and dressing gowns
2385	Waterproof outerwear
2386	Leather and sheep lined clothing
2387	Apparel belts
2389	Apparel and accessories, n.e.c.*
2391	Curtains and draperies
2392	Housefurnishings, except curtains and draperies
2393	Textile bags
2394	Canvas and related products
2395	Pleating, decorative and novelty stitching, and tucking for the trade
2396	Automotive trimmings, apparel findings, and related products
2397	Schiffli machine embroideries
2399	Fabricated textile products, n.e.c.*

24 Lumber and Wood Products, Except Furniture

2411	Logging
2421	Sawmills and planing mills, general
2426	Hardwood dimension and flooring mills
2429	Special product sawmills, n.e.c.*
2431	Millwork
2434	Wood kitchen cabinets
2435	Hardwood veneer and plywood
2436	Softwood veneer and plywood
2439	Structural wood members, n.e.c.*
2441	Nailed and lock corner wood boxes and shook
2448	Wood pallets and skids
2449	Wood containers, n.e.c.*
2451	Mobile homes
2452	Prefabricated wood buildings and components
2491	Wood preserving
2493	Reconstituted wood products
2499	Wood products, n.e.c.*

25 Furniture and Fixtures

2511	Wood household furniture, except upholstered
2512	Wood household furniture, upholstered
2514	Metal household furniture
2515	Mattresses, foundations, and convertible beds
2517	Wood television, radio, phonograph, and sewing machine cabinets
2519	Household furniture, n.e.c.*
2521	Wood office furniture
2522	Office furniture, except wood
2531	Public building and related furniture
2541	Wood office and store fixtures, partitions, shelving, and lockers
2542	Office and store fixtures, partitions, shelving, and lockers, except wood
2591	Drapery hardware and window blinds and shades
2599	Furniture and fixtures, n.e.c.*

26 Paper and Allied Products

2611	Pulp mills
2621	Paper mills
2631	Paperboard mills
2652	Setup paperboard boxes
2653	Corrugated and solid fiber boxes
2655	Fiber cans, tubes, drums, and similar products
2656	Sanitary food containers, except folding
2657	Folding paperboard boxes, including sanitary
2671	Packaging paper and plastics film, coated and laminated
2672	Coated and laminated paper, n.e.c.*
2673	Plastics, foil, and coated paper bags
2674	Uncoated paper and multiwall bags
2675	Die-cut paper and paperboard and cardboard
2676	Sanitary paper products
2677	Envelopes
2678	Stationery tablets, and related products
2679	Converted paper and paperboard products, n.e.c.*

27 Printing, Publishing, and Allied Industries

2711	Newspapers: publishing, or publishing and printing
2721	Periodicals: publishing, or publishing and printing
2731	Books: publishing, or publishing and printing
2732	Book printing
2741	Miscellaneous publishing
2752	Commercial printing, lithographic
2754	Commercial printing, gravure
2759	Commercial printing, n.e.c.*
2761	Manifold business forms
2771	Greeting cards
2782	Blankbooks, looseleaf binders and devices

2789	Bookbinding and related work
2791	Typesetting
2796	Platemaking and related services

28 Chemicals and Allied Products

2812	Alkalies and chlorine
2813	Industrial gases
2816	Inorganic pigments
2819	Industrial inorganic chemicals, n.e.c.*
2821	Plastics materials, synthetic resins, and nonvulcanizable elastomers
2822	Synthetic rubber (vulcanizable elastomers)
2823	Cellulosic manmade fibers
2824	Manmade organic fibers, except cellulosic
2833	Medicinal chemicals and botanical products
2834	Pharmaceutical preparations
2835	In vitro and in vivo diagnostic substances
2836	Biological products, except diagnostic substances
2841	Soap and other detergents, except specialty cleaners
2842	Specialty cleaning, polishing, and sanitation preparations
2843	Surface active agents, finishing agents, sulfonated oils, and assistants
2844	Perfumes, cosmetics, and other toilet preparations
2851	Paints, varnishes, lacquers, enamels, and allied products
2861	Gum and wood chemicals
2865	Cyclic organic crudes and intermediates, and organic dyes and pigments
2869	Industrial organic chemicals, n.e.c.*
2873	Nitrogenous fertilizers
2874	Phosphatic fertilizers
2875	Fertilizers, mixing only
2879	Pesticides and agricultural chemicals, n.e.c.*
2891	Adhesives and sealants
2892	Explosives
2893	Printing ink
2895	Carbon black
2899	Chemicals and chemical preparations, n.e.c.*

29 Petroleum Refining and Related Industries

2911	Petroleum refining
2951	Asphalt paving mixtures and blocks
2952	Asphalt felts and coatings
2992	Lubricating oils and greases
2999	Products of petroleum and coal, n.e.c.*

30 Rubber and Miscellaneous Plastics Products

3011	Tires and inner tubes
3021	Rubber and plastics footwear
3052	Rubber and plastics hose and belting
3053	Gaskets, packing, and sealing devices
3061	Molded, extruded, and lathecut mechanical rubber products
3069	Fabricated rubber products, n.e.c.*
3081	Unsupported plastics film and sheet
3082	Unsupported plastics profile shapes
3083	Laminated plastics plate, sheet, and profile shapes
3084	Plastics pipe
3085	Plastics bottles
3086	Plastics foam products
3087	Custom compounding of purchased plastics resins
3088	Plastics plumbing fixtures
3089	Plastics products, n.e.c.*

31 Leather and Leather Products

3111	Leather tanning and finishing
3131	Boot and shoe cut stock and findings
3142	House slippers
3143	Men's footwear, except athletic
3144	Women's footwear, except athletic
3149	Footwear, except rubber, n.e.c.*
3151	Leather gloves and mittens
3161	Luggage
3171	Women's handbags and purses
3172	Personal leather goods, except women's handbags and purses
3199	Leather goods, n.e.c.*

32 Stone, Clay, Glass and Concrete Products

3211	Flat glass
3221	Glass containers
3229	Pressed and blown glass and glassware, n.e.c.*
3231	Glass products, made of purchased glass
3241	Cement, hydraulic
3251	Brick and structural clay tile
3253	Ceramic wall and floor tile
3255	Clay refractories
3259	Structural clay products, n.e.c.*
3261	Vitreous china plumbing fixtures and china and earthenware fittings and bathroom accessories
3262	Vitreous china table and kitchen articles
3263	Fine earthenware (whiteware) table and kitchen articles
3264	Porcelain electrical supplies
3269	Pottery products, n.e.c.*
3271	Concrete block and brick
3272	Concrete products, except block and brick
3273	Ready mixed concrete
3274	Lime
3275	Gypsum products
3281	Cut stone and stone products
3291	Abrasive products
3292	Asbestos products

3295	Minerals and earths, ground or otherwise treated
3296	Mineral wool
3297	Nonclay refractories
3299	Nonmetallic mineral products, n.e.c.*

33 Primary Metal Industries

3312	Steel works, blast furnaces (including coke ovens), and rolling mills
3313	Electrometallurgical products, except steel
3315	Steel wiredrawing and steel nails and spikes
3316	Cold-rolled steel sheet, strip, and bars
3317	Steel pipe and tubes
3321	Gray and ductile iron foundries
3322	Malleable iron foundries
3324	Steel investment foundries
3325	Steel foundries, n.e.c.*
3331	Primary smelting and refining of copper
3334	Primary production of aluminum
3339	Primary smelting and refining of nonferrous metals, except copper and aluminum
3341	Secondary smelting and refining of nonferrous metals
3351	Rolling, drawing, and extruding of copper
3353	Aluminum sheet, plate, and foil
3354	Aluminum extruded products
3355	Aluminum rolling and drawing, n.e.c.*
3356	Rolling, drawing, and extruding of nonferrous metals, except copper and aluminum
3357	Drawing and insulating of nonferrous wire
3363	Aluminum die-castings
3364	Nonferrous die-castings, except aluminum
3365	Aluminum foundries
3366	Copper foundries
3369	Nonferrous foundries, except aluminum and copper
3398	Metal heat treating
3399	Primary metal products, n.e.c.*

34 Fabricated Metal Products, except Machinery and Transportation Equipment

3411	Metal cans
3412	Metal shipping barrels, drums, kegs, and pails
3421	Cutlery
3423	Hand and edge tools, except machine tools and handsaws
3425	Handsaws and saw blades
3429	Hardware, n.e.c.*
3431	Enameled iron and metal sanitary ware
3432	Plumbing fixture fittings and trim
3433	Heating equipment, except electric and warm air furnaces
3441	Fabricated structural metal
3442	Metal doors, sash, frames, molding, and trim
3443	Fabricated plate work (boiler shops)
3444	Sheet metal work
3446	Architectural and ornamental metal work
3448	Prefabricated metal buildings and components
3449	Miscellaneous structural metal work
3451	Screw machine products
3452	Bolts, nuts, screws, rivets, and washers
3462	Iron and steel forgings
3463	Nonferrous forgings
3465	Automotive stampings
3468	Crowns and closures
3469	Metal stampings, n.e.c.*
3471	Electroplating, plating, polishing, anodizing, and coloring
3479	Coating, engraving and allied services, n.e.c.*
3482	Small arms ammunition
3483	Ammunition, except for small arms
3484	Small arms
3489	Ordnance and accessories, n.e.c.*
3491	Industrial valves
3492	Fluid power valves and hose fittings
3493	Steel springs, except wire
3494	Valves and pipe fittings, n.e.c.*
3495	Wire springs
3496	Miscellaneous fabricated wire products
3497	Metal foil and leaf
3498	Fabricated pipe and pipe fittings
3499	Fabricated metal products, n.e.c.*

35 Industrial and Commercial Machinery and Computer Equipment

3511	Steam, gas and hydraulic turbines, and turbine generator set units
3519	Internal combustion engines, n.e.c.*
3523	Farm machinery and equipment
3524	Lawn and garden tractors and home lawn and garden equipment
3531	Construction machinery and equipment
3532	Mining machinery and equipment, except oil and gas field machinery and equipment
3533	Oil and gas field machinery and equipment
3534	Elevators and moving stairways
3535	Conveyors and conveying equipment
3536	Overhead traveling cranes, hoists, and monorail systems
3537	Industrial trucks, tractors, trailers, and stackers
3541	Machine tools, metal cutting types
3542	Machine tools, metal forming types
3543	Industrial patterns
3544	Special dies and tools, die sets, jigs and fixtures, and industrial molds
3545	Cutting tools, machine tool accessories, and machinists' measuring devices
3546	Power driven handtools

3547	Rolling mill machinery and equipment
3548	Electric and gas welding and soldering equipment
3549	Metalworking machinery, n.e.c.*
3552	Textile machinery
3553	Woodworking machinery
3554	Paper industries machinery
3555	Printing trades machinery and equipment
3556	Food products machinery
3559	Special industry machinery, n.e.c.*
3561	Pumps and pumping equipment
3562	Ball and roller bearings
3563	Air and gas compressors
3564	Industrial and commercial fans and blowers and air purification equipment
3565	Packaging equipment
3566	Speed changers, industrial high speed drives, and gears
3567	Industrial process furnaces and ovens
3568	Mechanical power transmission equipment, n.e.c.*
3569	General industrial machinery and equipment, n.e.c.*
3571	Electronic computers
3572	Computer storage devices
3575	Computer terminals
3577	Computer peripheral equipment, n.e.c.*
3578	Calculating and accounting machines, except electronic computers
3579	Office machines, n.e.c.*
3581	Automatic vending machines
3582	Commercial laundry, drycleaning, and pressing machines
3585	Air conditioning and warm air heating equipment and commercial and industrial refrigeration equipment
3586	Measuring and dispensing pumps
3589	Service industry machinery, n.e.c.*
3592	Carburetors, pistons, piston rings, and valves
3593	Fluid power cylinders and actuators
3594	Fluid power pumps and motors
3596	Scales and balances, except laboratory
3599	Industrial and commercial machinery and equipment, n.e.c*

36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment

3612	Power, distribution, and specialty transformers
3613	Switchgear and switchboard apparatus
3621	Motors and generators
3624	Carbon and graphite products
3625	Relays and industrial controls
3629	Electrical industrial appliances, n.e.c.*
3631	Household cooking equipment
3632	Household refrigerators and home and farm freezers
3633	Household laundry equipment
3634	Electrical housewares and fans
3635	Household vacuum cleaners
3639	Household appliances, n.e.c.*
3641	Electric lampbulbs and tubes
3643	Current carrying wiring devices
3644	Noncurrent carrying wiring devices
3645	Residential electric lighting fixtures
3646	Commercial, industrial, and institutional electric lighting fixtures
3647	Vehicular lighting equipment
3648	Lighting equipment, n.e.c.*
3651	Household audio and video equipment
3652	Phonograph records and pre-recorded audio tapes and disks
3661	Telephone and telegraph apparatus
3663	Radio and television broadcasting and communications equipment
3669	Communications equipment, n.e.c.*
3671	Electron tubes
3672	Printed circuit boards
3674	Semiconductors and related devices
3675	Electronic capacitors
3676	Electronic resistors
3677	Electronic coils, transformers, and other inductors
3678	Electronic connectors
3679	Electronic components, n.e.c.*
3691	Storage batteries
3692	Primary batteries, dry and wet
3694	Electric equipment for internal combustion engines
3695	Magnetic and optical recording media
3699	Electrical machinery, equipment, and supplies, n.e.c.*

37 Transportation Equipment

3711	Motor vehicles and passenger car bodies
3713	Truck and bus bodies
3714	Motor vehicle parts and accessories
3715	Truck trailers
3716	Motor homes
3721	Aircraft
3724	Aircraft engines and engine parts
3728	Aircraft parts and auxiliary equipment, n.e.c.*
3731	Ship building and repairing
3732	Boat building and repairing
3743	Railroad equipment
3751	Motorcycles, bicycles and parts
3761	Guided missiles and space vehicles
3764	Guided missile and space vehicle propulsion units and propulsion unit parts
3769	Guided missile and space vehicle parts and auxiliary equipment, n.e.c.*
3792	Travel trailers and campers
3795	Tanks and tank components
3799	Transportation equipment, n.e.c.*

38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks

3812	Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments
3821	Laboratory apparatus and furniture
3822	Automatic controls for regulating residential and commercial environments and appliances
3823	Industrial instruments for measurement, display, and control of process variables; and related products
3824	Totalizing fluid meters and counting devices
3825	Instruments for measuring and testing of electricity and electrical signals
3826	Laboratory analytical instruments
3827	Optical instruments and lenses
3829	Measuring and controlling devices, n.e.c.*
3841	Surgical and medical instruments and apparatus
3842	Orthopedic, prosthetic, and surgical appliances and supplies
3843	Dental equipment and supplies
3844	X-ray apparatus and tubes and related irradiation apparatus
3845	Electromedical and electrotherapeutic apparatus
3851	Ophthalmic goods
3861	Photographic equipment and supplies
3873	Watches, clocks, clockwork operated devices, and parts

39 Miscellaneous Manufacturing Industries

3911	Jewelry, precious metal
3914	Silverware, plated ware, and stainless steel ware
3915	Jewelers' findings and materials, and lapidary work
3931	Musical instruments
3942	Dolls and stuffed toys
3944	Games, toys and children's vehicles; except dolls and bicycles
3949	Sporting and athletic goods, n.e.c.*
3951	Pens, mechanical pencils, and parts
3952	Lead pencils, crayons, and artists' materials
3953	Marking devices
3955	Carbon paper and inked ribbons
3961	Costume jewelry and costume novelties, except precious metal
3965	Fasteners, buttons, needles, and pins
3991	Brooms and brushes
3993	Signs and advertising specialties
3995	Burial caskets
3996	Linoleum, asphalted-felt-base, and other hard surface floor coverings, n.e.c.*
3999	Manufacturing industries, n.e.c.*

*"Not elsewhere classified" indicated by "n.e.c."

TABLE II

SECTION 313 TOXIC CHEMICAL LIST FOR REPORTING YEAR 1988

(including Chemical Categories)

Specific toxic chemicals with CAS Number are listed in alphabetical order on this page. A list of the same chemicals in CAS Number order begins on page 40. Covered Chemical Categories are listed beginning on page 43.

[Note: Chemicals may be added to or deleted from the list. The Emergency Planning and Community Right-to-Know Information Hotline, (800) 535-0202 or (202) 479-2449 in Washington, D.C. or Alaska, will provide up-to-date information on the status of these changes. See page 7 of the instructions for more information on the de minimis values listed below.]

a. Alphabetical Chemical List

CAS Number	Chemical Name	De Minimis Concentration
75-07-0	Acetaldehyde	0.1
60-35-5	Acetamide	0.1
67-64-1	Acetone	1.0
75-05-8	Acetonitrile	1.0
53-96-3	2-Acetylaminofluorene	0.1
107-02-8	Acrolein	1.0
79-06-1	Acrylamide	0.1
79-10-7	Acrylic acid	1.0
107-13-1	Acrylonitrile	0.1
309-00-2	Aldrin {1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a.beta.)-}	1.0
107-05-1	Allyl chloride	1.0
7429-90-5	Aluminum (fume or dust)	1.0
1344-28-1	Aluminum oxide	1.0
117-79-3	2-Aminoanthraquinone	0.1
60-09-3	4-Aminoazobenzene	0.1
92-67-1	4-Aminobiphenyl	0.1
82-28-0	1-Amino-2-methylanthraquinone	0.1
7664-41-7	Ammonia	1.0
6484-52-2	Ammonium nitrate (solution)	1.0
7783-20-2	Ammonium sulfate (solution)	1.0
62-53-3	Aniline	1.0
90-04-0	o-Anisidine	0.1
104-94-9	p-Anisidine	1.0
134-29-2	o-Anisidine hydrochloride	0.1
120-12-7	Anthracene	1.0
7440-36-0	Antimony	1.0
7440-38-2	Arsenic	0.1
1332-21-4	Asbestos (friable)	0.1
7440-39-3	Barium	1.0
98-87-3	Benzal chloride	1.0
55-21-0	Benzamide	1.0
71-43-2	Benzene	0.1
92-87-5	Benzidine	0.1
98-07-7	Benzoic trichloride (Benzotrichloride)	0.1
98-88-4	Benzoyl chloride	1.0
94-36-0	Benzoyl peroxide	1.0
100-44-7	Benzyl chloride	1.0
7440-41-7	Beryllium	0.1
92-52-4	Biphenyl	1.0
111-44-4	Bis(2-chloroethyl) ether	1.0
542-88-1	Bis(chloromethyl) ether	0.1
108-60-1	Bis(2-chloro-1-methylethyl) ether	1.0
103-23-1	Bis(2-ethylhexyl) adipate	0.1
75-25-2	Bromoform {Tribromomethane}	1.0
74-83-9	Bromomethane {Methyl bromide}	1.0
106-99-0	1,3-Butadiene	0.1
141-32-2	Butyl acrylate	1.0
71-36-3	n-Butyl alcohol	1.0
78-92-2	sec-Butyl alcohol	1.0
75-65-0	tert-Butyl alcohol	1.0
85-68-7	Butyl benzyl phthalate	1.0
106-88-7	1,2-Butylene oxide	1.0
123-72-8	Butyraldehyde	1.0
4680-78-8	C.I. Acid Green 3*	1.0
569-64-2	C.I. Basic Green 4*	1.0
989-38-8	C.I. Basic Red 1*	0.1
1937-37-7	C.I. Direct Black 38*	0.1
2602-46-2	C.I. Direct Blue 6*	0.1
16071-86-6	C.I. Direct Brown 95*	0.1
2832-40-8	C.I. Disperse Yellow 3*	1.0
3761-53-3	C.I. Food Red 5*	0.1
81-88-9	C.I. Food Red 15*	0.1
3118-97-6	C.I. Solvent Orange 7*	1.0
97-56-3	C.I. Solvent Yellow 3*	0.1
842-07-9	C.I. Solvent Yellow 14*	0.1
492-80-8	C.I. Solvent Yellow 34* (Auramine)	0.1
128-66-5	C.I. Vat Yellow 4*	1.0
7440-43-9	Cadmium	0.1
156-62-7	Calcium cyanamide	1.0
133-06-2	Captan {1H-Isoindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2-[(trichloromethyl)thio]-}	1.0

CAS Number	Chemical Name	De Minimis Concentration
63-25-2	Carbaryl {1-Naphthalenol, methylcarbamate}	1.0
75-15-0	Carbon disulfide	1.0
56-23-5	Carbon tetrachloride	0.1
463-58-1	Carbonyl sulfide	1.0
120-80-9	Catechol	1.0
133-90-4	Chloramben {Benzoic acid, 3-amino-2,5-dichloro-}	1.0
57-74-9	Chlordane {4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-}	1.0
7782-50-5	Chlorine	1.0
10049-04-4	Chlorine dioxide	1.0
79-11-8	Chloroacetic acid	1.0
532-27-4	2-Chloroacetophenone	1.0
108-90-7	Chlorobenzene	1.0
510-15-6	Chlorobenzilate {Benzeneacetic acid,4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-hydroxy-,ethyl ester}	1.0
75-00-3	Chloroethane {Ethyl chloride}	1.0
67-66-3	Chloroform	0.1
74-87-3	Chloromethane {Methyl chloride}	1.0
107-30-2	Chloromethyl methyl ether	0.1
126-99-8	Chloroprene	1.0
1897-45-6	Chlorothalonil {1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-}	1.0
7440-47-3	Chromium	0.1
7440-48-4	Cobalt	1.0
7440-50-8	Copper	1.0
120-71-8	p-Cresidine	0.1
1319-77-3	Cresol (mixed isomers)	1.0
108-39-4	m-Cresol	1.0
95-48-7	o-Cresol	1.0
106-44-5	p-Cresol	1.0
98-82-8	Cumene	1.0
80-15-9	Cumene hydroperoxide	1.0
135-20-6	Cupferron {Benzeneamine, N-hydroxy-N-nitroso, ammonium salt}	0.1
110-82-7	Cyclohexane	1.0
94-75-7	2,4-D {Acetic acid, (2,4-dichlorophenoxy)-}	1.0
1163-19-5	Decabromodiphenyl oxide	1.0
2303-16-4	Diallate {Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester}	1.0
615-05-4	2,4-Diaminoanisole	0.1

CAS Number	Chemical Name	De Minimis Concentration
39156-41-7	2,4-Diaminoanisole sulfate	0.1
101-80-4	4,4'-Diaminodiphenyl ether	0.1
25376-45-8	Diaminotoluene (mixed isomers)	0.1
95-80-7	2,4-Diaminotoluene	0.1
334-88-3	Diazomethane	1.0
132-64-9	Dibenzofuran	1.0
96-12-8	1,2-Dibromo-3-chloropropane {DBCP}	0.1
106-93-4	1,2-Dibromoethane {Ethylene dibromide}	0.1
84-74-2	Dibutyl phthalate	1.0
25321-22-6	Dichlorobenzene (mixed isomers)	0.1
95-50-1	1,2-Dichlorobenzene	1.0
541-73-1	1,3-Dichlorobenzene	1.0
106-46-7	1,4-Dichlorobenzene	0.1
91-94-1	3,3'-Dichlorobenzidine	0.1
75-27-4	Dichlorobromomethane	1.0
107-06-2	1,2-Dichloroethane {Ethylene dichloride}	0.1
540-59-0	1,2-Dichloroethylene	1.0
75-09-2	Dichloromethane {Methylene chloride}	0.1
120-83-2	2,4-Dichlorophenol	1.0
78-87-5	1,2-Dichloropropane	1.0
542-75-6	1,3-Dichloropropylene	0.1
62-73-7	Dichlorvos {Phosphoric acid, 2,2-dichloroethenyl dimethyl ester}	1.0
115-32-2	Dicofol {Benzenemethanol, 4-chloro-.alpha.-(4-chlorophenyl)-.alpha.- (trichloromethyl)-}	1.0
1464-53-5	Diepoxybutane	0.1
111-42-2	Diethanolamine	1.0
117-81-7	Di-(2-ethylhexyl) phthalate {DEHP}	0.1
84-66-2	Diethyl phthalate	1.0
64-67-5	Diethyl sulfate	0.1
119-90-4	3,3'-Dimethoxybenzidine	0.1
60-11-7	4-Dimethylaminoazobenzene	0.1
119-93-7	3,3'-Dimethylbenzidine {o-Tolidine}	0.1
79-44-7	Dimethylcarbamyl chloride	0.1
57-14-7	1,1-Dimethyl hydrazine	0.1
105-67-9	2,4-Dimethylphenol	1.0
131-11-3	Dimethyl phthalate	1.0
77-78-1	Dimethyl sulfate	0.1
534-52-1	4,6-Dinitro-o-cresol	1.0
51-28-5	2,4-Dinitrophenol	1.0
121-14-2	2,4-Dinitrotoluene	1.0
606-20-2	2,6-Dinitrotoluene	1.0
117-84-0	n-Dioctyl phthalate	1.0
123-91-1	1,4-Dioxane	0.1

CAS Number	Chemical Name	De Minimis Concentration
122-66-7	1,2-Diphenylhydrazine {Hydrazobenzene}	0.1
106-89-8	Epichlorohydrin	0.1
110-80-5	2-Ethoxyethanol	1.0
140-88-5	Ethyl acrylate	0.1
100-41-4	Ethylbenzene	1.0
541-41-3	Ethyl chloroformate	1.0
74-85-1	Ethylene	1.0
107-21-1	Ethylene glycol	1.0
151-56-4	Ethyleneimine {Aziridine}	0.1
75-21-8	Ethylene oxide	0.1
96-45-7	Ethylene thiourea	0.1
2164-17-2	Fluometuron {Urea, N,N-dimethyl-N'-[3-(trifluoromethyl)phenyl]-}	1.0
50-00-0	Formaldehyde	0.1
76-13-1	Freon 113 {Ethane, 1,1,2-trichloro-1,2,2-trifluoro-}	1.0
76-44-8	Heptachlor {1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene}	1.0
118-74-1	Hexachlorobenzene	0.1
87-68-3	Hexachloro-1,3-butadiene	1.0
77-47-4	Hexachlorocyclopentadiene	1.0
67-72-1	Hexachloroethane	1.0
1335-87-1	Hexachloronaphthalene	1.0
680-31-9	Hexamethylphosphoramide	0.1
302-01-2	Hydrazine	0.1
10034-93-2	Hydrazine sulfate	0.1
7647-01-0	Hydrochloric acid	1.0
74-90-8	Hydrogen cyanide	1.0
7664-39-3	Hydrogen fluoride	1.0
123-31-9	Hydroquinone	1.0
78-84-2	Isobutyraldehyde	1.0
67-63-0	Isopropyl alcohol (manufacturing-strong acid process, no supplier notification)	0.1
80-05-7	4,4'-Isopropylidenediphenol	1.0
7439-92-1	Lead	0.1
58-89-9	Lindane {Cyclohexane,1,2,3,4,5,6-hexachloro-,(1.alpha.,2.alpha.,3.beta.,4.alpha.,5.alpha.,6.beta.)-}	0.1
108-31-6	Maleic anhydride	1.0
12427-38-2	Maneb {Carbamodithioic acid, 1,2-ethanediylbis-,manganese complex}	1.0
7439-96-5	Manganese	1.0
108-78-1	Melamine	1.0
7439-97-6	Mercury	1.0
67-56-1	Methanol	1.0
72-43-5	Methoxychlor {Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-methoxy-}	1.0
109-86-4	2-Methoxyethanol	1.0
96-33-3	Methyl acrylate	1.0
1634-04-4	Methyl tert-butyl ether	1.0
101-14-4	4,4'-Methylenebis (2-chloroaniline) {MBOCA}	0.1
101-61-1	4,4'-Methylenebis(N,N-dimethyl) benzenamine	0.1
101-68-8	Methylenebis (phenylisocyanate) {MBI}	1.0
74-95-3	Methylene bromide	1.0
101-77-9	4,4'-Methylenedianiline	0.1
78-93-3	Methyl ethyl ketone	1.0
60-34-4	Methyl hydrazine	1.0
74-88-4	Methyl iodide	0.1
108-10-1	Methyl isobutyl ketone	1.0
624-83-9	Methyl isocyanate	1.0
80-62-6	Methyl methacrylate	1.0
90-94-8	Michler's ketone	0.1
1313-27-5	Molybdenum trioxide	1.0
505-60-2	Mustard gas {Ethane, 1,1'-thiobis[2-chloro-}	0.1
91-20-3	Naphthalene	1.0
134-32-7	alpha-Naphthylamine	0.1
91-59-8	beta-Naphthylamine	0.1
7440-02-0	Nickel	0.1
7697-37-2	Nitric acid	1.0
139-13-9	Nitrilotriacetic acid	0.1
99-59-2	5-Nitro-o-anisidine	0.1
98-95-3	Nitrobenzene	1.0
92-93-3	4-Nitrobiphenyl	0.1
1836-75-5	Nitrofen {Benzene, 2,4-dichloro-1-(4-nitrophenoxy)-}	0.1
51-75-2	Nitrogen mustard {2-Chloro-N-(2-chloroethyl)-N-methylethanamine}	0.1
55-63-0	Nitroglycerin	1.0
88-75-5	2-Nitrophenol	1.0
100-02-7	4-Nitrophenol	1.0
79-46-9	2-Nitropropane	0.1
156-10-5	p-Nitrosodiphenylamine	0.1
121-69-7	N,N-Dimethylaniline	1.0
924-16-3	N-Nitrosodi-n-butylamine	0.1
55-18-5	N-Nitrosodiethylamine	0.1
62-75-9	N-Nitrosodimethylamine	0.1
86-30-6	N-Nitrosodiphenylamine	1.0
621-64-7	N-Nitrosodi-n-propylamine	0.1
4549-40-0	N-Nitrosomethylvinylamine	0.1

CAS Number	Chemical Name	De Minimis Concentration
59-89-2	N-Nitrosomorpholine	0.1
759-73-9	N-Nitroso-N-ethylurea	0.1
684-93-5	N-Nitroso-N-methylurea	0.1
16543-55-8	N-Nitrosonornicotine	0.1
100-75-4	N-Nitrosopiperidine	0.1
2234-13-1	Octachloronaphthalene	1.0
20816-12-0	Osmium tetroxide	1.0
56-38-2	Parathion {Phosphorothioic acid, o, o-diethyl-o-(4-nitrophenyl) ester}	1.0
87-86-5	Pentachlorophenol {PCP}	1.0
79-21-0	Peracetic acid	1.0
108-95-2	Phenol	1.0
106-50-3	p-Phenylenediamine	1.0
90-43-7	2-Phenylphenol	1.0
75-44-5	Phosgene	1.0
7664-38-2	Phosphoric acid	1.0
7723-14-0	Phosphorus (yellow or white)	1.0
85-44-9	Phthalic anhydride	1.0
88-89-1	Picric acid	1.0
1336-36-3	Polychlorinated biphenyls {PCBs}	0.1
1120-71-4	Propane sultone	0.1
57-57-8	beta-Propiolactone	0.1
123-38-6	Propionaldehyde	1.0
114-26-1	Propoxur {Phenol, 2-(1-methylethoxy)-, methylcarbamate}	1.0
115-07-1	Propylene {Propene}	1.0
75-55-8	Propyleneimine	0.1
75-56-9	Propylene oxide	0.1
110-86-1	Pyridine	1.0
91-22-5	Quinoline	1.0
106-51-4	Quinone	1.0
82-68-8	Quintozene {Pentachloronitrobenzene}	1.0
81-07-2	Saccharin (manufacturing, no supplier notification) {1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide}	0.1
94-59-7	Safrole	0.1
7782-49-2	Selenium	1.0
7440-22-4	Silver	1.0
1310-73-2	Sodium hydroxide (solution)	1.0
7757-82-6	Sodium sulfate (solution)	1.0
100-42-5	Styrene	0.1
96-09-3	Styrene oxide	0.1
7664-93-9	Sulfuric acid	1.0
100-21-0	Terephthalic acid	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.1
127-18-4	Tetrachloroethylene {Perchloroethylene}	0.1

CAS Number	Chemical Name	De Minimis Concentration
961-11-5	Tetrachlorvinphos {Phosphoric acid, 2-chloro-1-(2,3,5-trichlorophenyl) ethenyl dimethyl ester}	1.0
7440-28-0	Thallium	1.0
62-55-5	Thioacetamide	0.1
139-65-1	4,4'-Thiodianiline	0.1
62-56-6	Thiourea	0.1
1314-20-1	Thorium dioxide	1.0
7550-45-0	Titanium tetrachloride	1.0
108-88-3	Toluene	1.0
584-84-9	Toluene-2,4-diisocyanate	0.1
91-08-7	Toluene-2,6-diisocyanate	0.1
95-53-4	o-Toluidine	0.1
636-21-5	o-Toluidine hydrochloride	0.1
8001-35-2	Toxaphene	0.1
68-76-8	Triaziquone {2,5-Cyclohexadiene-1,4-dione, 2,3,5-tris(1-aziridinyl)-}	0.1
52-68-6	Trichlorfon {Phosphonic acid,(2,2,2-trichloro-1-hydroxyethyl)-,dimethyl ester}	1.0
120-82-1	1,2,4-Trichlorobenzene	1.0
71-55-6	1,1,1-Trichloroethane {Methyl chloroform}	1.0
79-00-5	1,1,2-Trichloroethane	1.0
79-01-6	Trichloroethylene	1.0
95-95-4	2,4,5-Trichlorophenol	1.0
88-06-2	2,4,6-Trichlorophenol	0.1
1582-09-8	Trifluralin {Benzenamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-}	1.0
95-63-6	1,2,4-Trimethylbenzene	1.0
126-72-7	Tris (2,3-dibromopropyl) phosphate	0.1
51-79-6	Urethane {Ethyl carbamate}	0.1
7440-62-2	Vanadium (fume or dust)	1.0
108-05-4	Vinyl acetate	1.0
593-60-2	Vinyl bromide	0.1
75-01-4	Vinyl chloride	0.1
75-35-4	Vinylidene chloride	1.0
1330-20-7	Xylene (mixed isomers)	1.0
108-38-3	m-Xylene	1.0
95-47-6	o-Xylene	1.0
106-42-3	p-Xylene	1.0
87-62-7	2,6-Xylidine	1.0
7440-66-6	Zinc (fume or dust)	1.0
12122-67-7	Zineb {Carbamodithioic acid, 1,2-ethanediylbis-, zinc complex}	1.0

b. List By CAS Number

CAS Number	Chemical Name	De Minimis Concentration
50-00-0	Formaldehyde	0.1
51-28-5	2,4-Dinitrophenol	1.0
51-75-2	Nitrogen mustard {2-Chloro-N-(2-chloroethyl)-N-methylanamine}	0.1
51-79-6	Urethane {Ethyl carbamate}	0.1
52-68-6	Trichlorfon {Phosphonic acid,(2,2,2-trichloro-1-hydroxyethyl)-, dimethyl ester}	1.0
53-96-3	2-Acetylaminofluorene	0.1
55-18-5	N-Nitrosodiethylamine	0.1
55-21-0	Benzamide	1.0
55-63-0	Nitroglycerin	1.0
56-23-5	Carbon tetrachloride	0.1
56-38-2	Parathion {Phosphorothioic acid, o,o-diethyl-o-(4-nitrophenyl)ester}	1.0
57-14-7	1,1-Dimethyl hydrazine	0.1
57-57-8	beta-Propiolactone	0.1
57-74-9	Chlordane {4,7-Methanoindan,1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-}	1.0
58-89-9	Lindane {Cyclohexane,1,2,3,4,5,6-hexachloro-,(1.alpha.,2.alpha.,3.beta., 4.alpha.,5.alpha.,6.beta.)-}	0.1
59-89-2	N-Nitrosomorpholine	0.1
60-09-3	4-Aminoazobenzene	0.1
60-11-7	4-Dimethylaminoazobenzene	0.1
60-34-4	Methyl hydrazine	1.0
60-35-5	Acetamide	0.1
62-53-3	Aniline	1.0
62-55-5	Thioacetamide	0.1
62-56-6	Thiourea	0.1
62-73-7	Dichlorvos {Phosphoric acid, 2,2-dichloroethenyl dimethyl ester}	1.0
62-75-9	N-Nitrosodimethylamine	0.1
63-25-2	Carbaryl {1-Naphthalenol, methylcarbamate}	1.0
64-67-5	Diethyl sulfate	0.1
67-56-1	Methanol	1.0
67-63-0	Isopropyl alcohol (manufacturing-strong acid process, no supplier notification)	0.1
67-64-1	Acetone	1.0
67-66-3	Chloroform	0.1
67-72-1	Hexachloroethane	1.0
68-76-8	Triaziquone {2,5-Cyclohexadiene-1,4-dione, 2,3,5-tris(1-aziridinyl)-}	0.1
71-36-3	n-Butyl alcohol	1.0
71-43-2	Benzene	0.1
71-55-6	1,1,1-Trichloroethane {Methyl chloroform}	1.0
72-43-5	Methoxychlor {Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-methoxy-}	1.0
74-83-9	Bromomethane {Methyl bromide}	1.0
74-85-1	Ethylene	1.0
74-87-3	Chloromethane {Methyl chloride}	1.0
74-88-4	Methyl iodide	0.1
74-90-8	Hydrogen cyanide	1.0
74-95-3	Methylene bromide	1.0
75-00-3	Chloroethane {Ethyl chloride}	1.0
75-01-4	Vinyl chloride	0.1
75-05-8	Acetonitrile	0.1
75-07-0	Acetaldehyde	1.0
75-09-2	Dichloromethane {Methylene chloride}	0.1
75-15-0	Carbon disulfide	1.0
75-21-8	Ethylene oxide	0.1
75-25-2	Bromoform {Tribromomethane}	1.0
75-27-4	Dichlorobromomethane	1.0
75-35-4	Vinylidene chloride	1.0
75-44-5	Phosgene	1.0
75-55-8	Propyleneimine	0.1
75-56-9	Propylene oxide	0.1
75-65-0	tert-Butyl alcohol	1.0
76-13-1	Freon 113 {Ethane, 1,1,2-trichloro-1,2,2-trifluoro-}	1.0
76-44-8	Heptachlor {1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene}	1.0
77-47-4	Hexachlorocyclopentadiene	1.0
77-78-1	Dimethyl sulfate	0.1
78-84-2	Isobutyraldehyde	1.0
78-87-5	1,2-Dichloropropane	1.0
78-92-2	sec-Butyl alcohol	1.0
78-93-3	Methyl ethyl ketone	1.0
79-00-5	1,1,2-Trichloroethane	1.0
79-01-6	Trichloroethylene	1.0
79-06-1	Acrylamide	0.1
79-10-7	Acrylic acid	1.0
79-11-8	Chloroacetic acid	1.0
79-21-0	Peracetic acid	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.1
79-44-7	Dimethylcarbamyl chloride	0.1
79-46-9	2-Nitropropane	0.1

CAS Number	Chemical Name	De Minimis Concentration
80-05-7	4,4'-Isopropylidenediphenol	1.0
80-15-9	Cumene hydroperoxide	1.0
80-62-6	Methyl methacrylate	1.0
81-07-2	Saccharin (manufacturing, no supplier notification) {1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide}	0.1
81-88-9	C.I. Food Red 15*	0.1
82-28-0	1-Amino-2-methylanthraquinone	0.1
82-68-8	Quintozene {Pentachloronitro-benzene}	1.0
84-66-2	Diethyl phthalate	1.0
84-74-2	Dibutyl phthalate	1.0
85-44-9	Phthalic anhydride	1.0
85-68-7	Butyl benzyl phthalate	1.0
86-30-6	N-Nitrosodiphenylamine	1.0
87-62-7	2,6-Xylidine	1.0
87-68-3	Hexachloro-1,3-butadiene	1.0
87-86-5	Pentachlorophenol {PCP}	1.0
88-06-2	2,4,6-Trichlorophenol	0.1
88-75-5	2-Nitrophenol	1.0
88-89-1	Picric acid	1.0
90-04-0	o-Anisidine	0.1
90-43-7	2-Phenylphenol	1.0
90-94-8	Michler's ketone	0.1
91-08-7	Toluene-2,6-diisocyanate	0.1
91-20-3	Naphthalene	1.0
91-22-5	Quinoline	1.0
91-59-8	beta-Naphthylamine	0.1
91-94-1	3,3'-Dichlorobenzidine	0.1
92-52-4	Biphenyl	1.0
92-67-1	4-Aminobiphenyl	0.1
92-87-5	Benzidine	0.1
92-93-3	4-Nitrobiphenyl	0.1
94-36-0	Benzoyl peroxide	1.0
94-59-7	Safrole	0.1
94-75-7	2,4-D {Acetic acid, (2,4-dichlorophenoxy)-}	1.0
95-47-6	o-Xylene	1.0
95-48-7	o-Cresol	1.0
95-50-1	1,2-Dichlorobenzene	1.0
95-53-4	o-Toluidine	0.1
95-63-6	1,2,4-Trimethylbenzene	1.0
95-80-7	2,4-Diaminotoluene	0.1
95-95-4	2,4,5-Trichlorophenol	1.0
96-09-3	Styrene oxide	0.1
96-12-8	1,2-Dibromo-3-chloropropane {DBCP}	0.1
96-33-3	Methyl acrylate	1.0
96-45-7	Ethylene thiourea	0.1
97-56-3	C.I. Solvent Yellow 3*	0.1

CAS Number	Chemical Name	De Minimis Concentration
98-07-7	Benzoic trichloride {Benzotrichloride}	0.1
98-82-8	Cumene	1.0
98-87-3	Benzal chloride	1.0
98-88-4	Benzoyl chloride	1.0
98-95-3	Nitrobenzene	1.0
99-59-2	5-Nitro-o-anisidine	0.1
100-02-7	4-Nitrophenol	1.0
100-21-0	Terephthalic acid	1.0
100-41-4	Ethylbenzene	1.0
100-42-5	Styrene	0.1
100-44-7	Benzyl chloride	1.0
100-75-4	N-Nitrosopiperidine	0.1
101-14-4	4,4'-Methylenebis (2-chloroaniline) {MBOCA}	0.1
101-61-1	4,4'-Methylenebis(N,N-dimethyl) benzenamine	0.1
101-68-8	Methylenebis(phenylisocyanate) {MBI}	1.0
101-77-9	4,4'-Methylenedianiline	0.1
101-80-4	4,4'-Diaminodiphenyl ether	0.1
103-23-1	Bis(2-ethylhexyl) adipate	0.1
104-94-9	p-Anisidine	1.0
105-67-9	2,4-Dimethylphenol	1.0
106-42-3	p-Xylene	1.0
106-44-5	p-Cresol	1.0
106-46-7	1,4-Dichlorobenzene	0.1
106-50-3	p-Phenylenediamine	1.0
106-51-4	Quinone	1.0
106-88-7	1,2-Butylene oxide	1.0
106-89-8	Epichlorohydrin	0.1
106-93-4	1,2-Dibromoethane {Ethylene dibromide}	0.1
106-99-0	1,3-Butadiene	0.1
107-02-8	Acrolein	1.0
107-05-1	Allyl chloride	1.0
107-06-2	1,2-Dichloroethane {Ethylene dichloride}	0.1
107-13-1	Acrylonitrile	0.1
107-21-1	Ethylene glycol	1.0
107-30-2	Chloromethyl methyl ether	0.1
108-05-4	Vinyl acetate	1.0
108-10-1	Methyl isobutyl ketone	1.0
108-31-6	Maleic anhydride	1.0
108-38-3	m-Xylene	1.0
108-39-4	m-Cresol	1.0
108-60-1	Bis(2-chloro-1-methylethyl) ether	1.0
108-78-1	Melamine	1.0
108-88-3	Toluene	1.0
108-90-7	Chlorobenzene	1.0
108-95-2	Phenol	1.0
109-86-4	2-Methoxyethanol	1.0

CAS Number	Chemical Name	De Minimis Concentration
110-80-5	2-Ethoxyethanol	1.0
110-82-7	Cyclohexane	1.0
110-86-1	Pyridine	1.0
111-42-2	Diethanolamine	1.0
111-44-4	Bis(2-chloroethyl) ether	1.0
114-26-1	Propoxur {Phenol, 2-(1-methylethoxy)-, methylcarbamate}	1.0
115-07-1	Propylene (Propene)	1.0
115-32-2	Dicofol {Benzenemethanol, 4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-(trichloromethyl)-}	1.0
117-79-3	2-Aminoanthraquinone	0.1
117-81-7	Di(2-ethylhexyl) phthalate {DEHP}	0.1
117-84-0	n-Dioctyl phthalate	1.0
118-74-1	Hexachlorobenzene	0.1
119-90-4	3,3'-Dimethoxybenzidine	0.1
119-93-7	3,3'-Dimethylbenzidine {o-Tolidine}	0.1
120-12-7	Anthracene	1.0
120-71-8	p-Cresidine	0.1
120-80-9	Catechol	1.0
120-82-1	1,2,4-Trichlorobenzene	1.0
120-83-2	2,4-Dichlorophenol	1.0
121-14-2	2,4-Dinitrotoluene	1.0
121-69-7	N,N-Dimethylaniline	1.0
122-66-7	1,2-Diphenylhydrazine {Hydrazobenzene}	0.1
123-31-9	Hydroquinone	1.0
123-38-6	Propionaldehyde	1.0
123-72-8	Butyraldehyde	1.0
123-91-1	1,4-Dioxane	0.1
126-72-7	Tris(2,3-dibromopropyl) phosphate	0.1
126-99-8	Chloroprene	1.0
127-18-4	Tetrachloroethylene {Perchloroethylene}	0.1
128-66-5	C.I. Vat Yellow 4*	1.0
131-11-3	Dimethyl phthalate	1.0
132-64-9	Dibenzofuran	1.0
133-06-2	Captan {1H-Isoindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2[(trichloromethy)thio]-}	1.0
133-90-4	Chloramben {Benzoic acid, 3-amino-2,5-dichloro-}	1.0
134-29-2	o-Anisidine hydrochloride	0.1
134-32-7	alpha-Naphthylamine	0.1
135-20-6	Cupferron {Benzeneamine, N-hydroxy-N-nitroso,ammonium salt}	0.1

CAS Number	Chemical Name	De Minimis Concentration
139-13-9	Nitrilotriacetic acid	0.1
139-65-1	4,4'-Thiodianiline	0.1
140-88-5	Ethyl acrylate	0.1
141-32-2	Butyl acrylate	1.0
151-56-4	Ethyleneimine (Aziridine)	0.1
156-10-5	p-Nitrosodiphenylamine	0.1
156-62-7	Calcium cyanamide	1.0
302-01-2	Hydrazine	0.1
309-00-2	Aldrin {1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a.beta.)-}	1.0
334-88-3	Diazomethane	1.0
463-58-1	Carbonyl sulfide	1.0
492-80-8	C.I. Solvent Yellow 34* {Auramine}	0.1
505-60-2	Mustard gas {Ethane,1,1'-thiobis[2-chloro-}	0.1
510-15-6	Chlorobenzilate {Benzeneacetic acid,4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-hydroxy-,ethyl ester}	1.0
532-27-4	2-Chloroacetophenone	1.0
534-52-1	4,6-Dinitro-o-cresol	1.0
540-59-0	1,2-Dichloroethylene	1.0
541-41-3	Ethyl chloroformate	1.0
541-73-1	1,3-Dichlorobenzene	1.0
542-75-6	1,3-Dichloropropylene	0.1
542-88-1	Bis(chloromethyl) ether	0.1
569-64-2	C.I. Basic Green 4*	1.0
584-84-9	Toluene-2,4-diisocyanate	0.1
593-60-2	Vinyl bromide	0.1
606-20-2	2,6-Dinitrotoluene	1.0
615-05-4	2,4-Diaminoanisole	0.1
621-64-7	N-Nitrosodi-n-propylamine	0.1
624-83-9	Methyl isocyanate	1.0
636-21-5	o-Toluidine hydrochloride	0.1
680-31-9	Hexamethylphosphoramide	0.1
684-93-5	N-Nitroso-N-methylurea	0.1
759-73-9	N-Nitroso-N-ethylurea	0.1
842-07-9	C.I. Solvent Yellow 14*	0.1
924-16-3	N-Nitrosodi-n-butylamine	0.1
961-11-5	Tetrachlorvinphos {Phosphoric acid, 2-chloro-1-(2,3,5-trichlorophenyl)ethenyl dimethyl ester}	1.0
989-38-8	C.I. Basic Red 1*	0.1
1120-71-4	Propane sultone	0.1
1163-19-5	Decabromodiphenyl oxide	1.0
1310-73-2	Sodium hydroxide (solution)	1.0
1313-27-5	Molybdenum trioxide	1.0
1314-20-1	Thorium dioxide	1.0

CAS Number	Chemical Name	De Minimis Concentration
1319-77-3	Cresol (mixed isomers)	1.0
1330-20-7	Xylene (mixed isomers)	1.0
1332-21-4	Asbestos (friable)	0.1
1335-87-1	Hexachloronaphthalene	1.0
1336-36-3	Polychlorinated biphenyls {PCBs}	0.1
1344-28-1	Aluminum oxide	1.0
1464-53-5	Diepoxybutane	0.1
1582-09-8	Trifluralin {Benzenamine, 2,6- dinitro-N,N-dipropyl-4-(trifluoromethyl)-}	1.0
1634-04-4	Methyl tert-butyl ether	1.0
1836-75-5	Nitrofen {Benzene, 2,4-dichloro-1-(4-nitrophenoxy)-}	0.1
1897-45-6	Chlorothalonil {1,3-Benzenedicar bonitrile, 2,4,5,6-tetrachloro-}	1.0
1937-37-7	C.I. Direct Black 38*	0.1
2164-17-2	Fluometuron {Urea, N,N-dimethyl-N'-[3-(trifluoromethyl)phenyl]-}	1.0
2234-13-1	Octachloronaphthalene	1.0
2303-16-4	Diallate {Carbamothioic acid, bis (1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester}	1.0
2602-46-2	C.I. Direct Blue 6*	0.1
2832-40-8	C.I. Disperse Yellow 3*	1.0
3118-97-6	C.I. Solvent Orange 7*	1.0
3761-53-3	C.I. Food Red 5*	0.1
4549-40-0	N-Nitrosomethylvinylamine	0.1
4680-78-8	C.I. Acid Green 3*	1.0
6484-52-2	Ammonium nitrate (solution)	1.0
7429-90-5	Aluminum (fume or dust)	1.0
7439-92-1	Lead	0.1
7439-96-5	Manganese	1.0
7439-97-6	Mercury	1.0
7440-02-0	Nickel	0.1
7440-22-4	Silver	1.0
7440-28-0	Thallium	1.0
7440-36-0	Antimony	1.0
7440-38-2	Arsenic	0.1
7440-39-3	Barium	1.0
7440-41-7	Beryllium	0.1
7440-43-9	Cadmium	0.1
7440-47-3	Chromium	0.1
7440-48-4	Cobalt	1.0
7440-50-8	Copper	1.0
7440-62-2	Vanadium (fume or dust)	1.0
7440-66-6	Zinc (fume or dust)	1.0
7550-45-0	Titanium tetrachloride	1.0
7647-01-0	Hydrochloric acid	1.0

CAS Number	Chemical Name	De Minimis Concentration
7664-38-2	Phosphoric acid	1.0
7664-39-3	Hydrogen fluoride	1.0
7664-41-7	Ammonia	1.0
7664-93-9	Sulfuric acid	1.0
7697-37-2	Nitric acid	1.0
7723-14-0	Phosphorus (yellow or white)	1.0
7757-82-6	Sodium sulfate (solution)	1.0
7782-49-2	Selenium	1.0
7782-50-5	Chlorine	1.0
7783-20-2	Ammonium sulfate (solution)	1.0
8001-35-2	Toxaphene	0.1
10034-93-2	Hydrazine sulfate	0.1
10049-04-4	Chlorine dioxide	1.0
12122-67-7	Zineb {Carbamodithioic acid, 1,2-ethanediylbis-,zinc complex}	1.0
12427-38-2	Maneb {Carbamodithioic acid, 1,2-ethanediylbis-,manganese complex}	1.0
16071-86-6	C.I Direct Brown 95*	0.1
16543-55-8	N-Nitrosonornicotine	0.1
20816-12-0	Osmium tetroxide	1.0
25321-22-6	Dichlorobenzene (mixed isomers)	0.1
25376-45-8	Diaminotoluene (mixed isomers)	0.1
39156-41-7	2,4-Diaminoanisole sulfate	0.1

SECTION 313 CHEMICAL CATEGORIES

Section 313 requires emissions reporting on the chemical categories listed below, in addition to the specific chemicals listed above. The metal compounds listed below, unless otherwise specified, are defined as including any unique chemical substance that contains the named metal (i.e., antimony, copper, etc.) as part of that chemical's structure.

Chemical categories are subject to the 1 percent de minimis concentration unless the substance involved meets the definition of an OSHA carcinogen.

Antimony Compounds - Includes any unique chemical substance that contains antimony as part of that chemical's infrastructure.

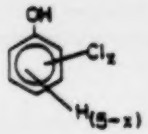
Arsenic Compounds - Includes any unique chemical substance that contains arsenic as part of that chemical's infrastructure.

Barium Compounds - Includes any unique chemical substance that contains barium as part of that chemical's infrastructure.

Beryllium Compounds - Includes any unique chemical substance that contains beryllium as part of that chemical's infrastructure.

Cadmium Compounds - Includes any unique chemical substance that contains cadmium as part of that chemical's infrastructure.

Chlorophenols -



where x = 1 to 5

Chromium Compounds - Includes any unique chemical substance that contains chromium as part of that chemical's infrastructure.

Cobalt Compounds - Includes any unique chemical substance that contains cobalt as part of that chemical's infrastructure.

Copper Compounds - Includes any unique chemical substance that contains copper as part of that chemical's infrastructure.

Cyanide Compounds - $X^+ CN^-$ where X = H^+ or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$.

Glycol Ethers - Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol.

$R\text{-}(OCH_2CH_2)_n\text{-}OR'$
Where n = 1,2,or 3
R = alkyl or aryl groups
R'= R, H, or groups which, when
removed, yield glycol ethers with the
structure:
$R\text{-}(OCH_2CH_2)_n\text{-}OH$

Polymers are excluded from this category.

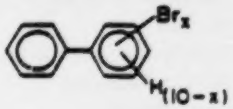
Lead Compounds - Includes any unique chemical substance that contains lead as part of that chemical's infrastructure.

Manganese Compounds - Includes any unique chemical substance that contains manganese as part of that chemical's infrastructure.

Mercury Compounds - Includes any unique chemical substance that contains mercury as part of that chemical's infrastructure.

Nickel Compounds - Includes any unique chemical substance that contains nickel as part of that chemical's infrastructure.

Polybrominated Biphenyls (PBBs)



where x = 1 to 10

Selenium Compounds - Includes any unique chemical substance that contains selenium as part of that chemical's infrastructure.

Silver Compounds - Includes any unique chemical substance that contains silver as part of that chemical's infrastructure.

Thallium Compounds - Includes any unique chemical substance that contains thallium as part of that chemical's infrastructure.

Zinc Compounds - Includes any unique chemical substance that contains zinc as part of that chemical's infrastructure.

*C.I. means "Color Index."

TABLE III

STATE ABBREVIATIONS

Alabama	AL	Montana	MT
Alaska	AK	Nebraska	NE
American Samoa	AS	Nevada	NV
Arizona	AZ	New Hampshire	NH
Arkansas	AR	New Jersey	NJ
California	CA	New Mexico	NM
Colorado	CO	New York	NY
Connecticut	CT	North Carolina	NC
Delaware	DE	North Dakota	ND
District of Columbia	DC	Commonwealth of the Northern Mariana Islands	MP
Florida	FL	Ohio	OH
Georgia	GA	Oklahoma	OK
Guam	GU	Oregon	OR
Hawaii	HI	Pennsylvania	PA
Idaho	ID	Puerto Rico	PR
Illinois	IL	Rhode Island	RI
Indiana	IN	South Carolina	SC
Iowa	IA	South Dakota	SD
Kansas	KS	Tennessee	TN
Kentucky	KY	Texas	TX
Louisiana	LA	Utah	UT
Maine	ME	Vermont	VT
Marshall Islands	MH	Virginia	VA
Maryland	MD	Virgin Islands	VI
Massachusetts	MA	Washington	WA
Michigan	MI	West Virginia	WV
Minnesota	MN	Wisconsin	WI
Mississippi	MS	Wyoming	WY
Missouri	MO		

ADDITIONAL MATERIALS AVAILABLE ON SECTION 313:

For copies of these materials, send in the request form included in the booklet or write to:

Section 313 Document Distribution Center
P.O. Box 12505
Cincinnati, OH 45212

☐ **Section 313 Rule** (FR Reprint)

A reprint of the final section 313 rule as it appeared in the Federal Register (FR) February 16, 1988.

☐ **TRI Magnetic Media Submission Guidance Package** (EPA 560/7-88-003)

Reports under section 313 may be submitted by computer tape or floppy disk. This guidance package gives the format requirements and other details for such submissions.

☐ **Toxic Chemical Release Inventory Questions and Answers** (EPA 560/4-89-002)

Answers to frequently asked questions about the section 313 rule, organized by subject area.

☐ **Section 313 Technical Questions and Answers Document**

☐ **Common Synonyms for Section 313 Chemicals** (OTS-ETD-001)

This document contains common synonyms for the specifically listed section 313 chemicals (synonyms for chemicals in covered categories are not included).

☐ **Comprehensive List of Chemicals Subject to Reporting Under the Act (Title III List of Lists)** (EPA 560/4-88-003)

A consolidated list of specific chemicals covered by the Emergency Planning and Community Right-to-Know Act. The list contains the chemical name, CAS Registry Number, and provides specific information on what reporting requirement(s) the chemical is subject to.

☐ **Supplier Notification Requirements Brochure** (EPA 560/4-88-008)

☐ **Trade Secrets Rule and Form** (FR Reprint)

A reprint of the final rule that appeared in the Federal Register of July 29, 1988. This rule implements the trade secrets provision of the Emergency Planning and Community Right-to-Know Act (Section 322). Includes a copy of the trade secret substantiation form.

☐ **Industry Specific Technical Guidance Documents**

The Agency has developed a group of smaller, individual guidance documents that target activities in industries who primarily process or use the listed toxic chemicals.

Also available:

☐ **Comprehensive List of Chemicals Subject to Reporting Under the Act (Title III List of Lists)**

Available as an IBM compatible disk from: The National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4650, Document Number: PB 88-193255, $50.00.

☐ **Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release Inventory** (EPA 560/4-88-002)

Suggested methods on the development of release estimates and waste treatment efficiency calculations required on Form R. Available from: Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325, (202) 783-3238, Stock Number: 055-000-00270-3, $11.00.

APPENDIX A

EXAMPLE OF A COMPLETED FORM R FOR A HYPOTHETICAL FACILITY REPORTING UNDER TITLE III, SECTION 313

The following is a hypothetical example of how one manufacturer might complete the toxic chemical release inventory reporting Form R. The facility information is purely fictitious and does not represent any known manufacturing facility. The example begins with descriptions of the facility (a lead-acid storage battery manufacturer) and of the production process at the facility. The completion of each section of Form R is explained and a copy of Form R, as it would be completed by this facility, follows.

Facility Description

Your company manufactures lead-acid batteries at a plant in New Mexico. Your company also operates a lead smelter that produces lead ingots at another location in New Mexico and ships them to the battery plant. Lead scrap from the battery plant is returned to the smelter for recovery and reuse. The SIC code of the battery plant is 3691 (storage batteries); the SIC code for the smelter is 3341 (secondary smelting and refining of non-ferrous metals). A lead oxide production plant located adjacent to the battery plant, on the same property, also falls under SIC code 3691.

The lead oxide plant and the battery plant are considered, for the purposes of section 313 reporting requirements, to be a single facility. The facility is required to submit a completed Form R for each reported chemical or chemical category. Because activities at your facility involve both metallic lead and lead compounds (e.g., lead oxide), you may file a single reporting form for metallic lead (CAS number 7439-92-1) and a single form for lead compounds manufactured, processed, or used at your facility. Alternatively, and preferably, you may file one reporting form for all lead compounds (a single listed category under section 313) present at your facility, including metallic lead. In this example, metallic lead and all lead compounds are reported on a single reporting form.

Lead-acid batteries are produced using lead, sulfuric acid, additives such as antimony, and various other raw materials. Your facility's battery production capacity is 5000 batteries per day, and the facility normally operates 24 hours per day, 300 days per year. If sulfuric acid was manufactured, processed, or used at the battery plant in amounts that exceed the applicable thresholds, you would be required to report releases of sulfuric acid separately. Similarly, releases of lead and lead compounds from the remotely located lead smelter must be reported separately, if manufactured, processed, or used in amounts that exceed the thresholds.

Process Description

A lead-acid battery consists of a number of electrolytic cells, each containing an anode of porous lead, a cathode of primarily lead peroxide (PbO_2), and electrodes of metallic lead. The anode and cathode are separated by non-conducting material (e.g., plastic) and surrounded by an electrolytic (conductive) solution of sulfuric acid and water.

The first steps in the battery manufacturing process are grid casting and lead oxide (PbO) production. Lead ingots are melted and reformed by grid molding machines. The grids are ejected from the molds, trimmed, and stacked. Lead fumes from the lead melting and grid casting process are exhausted to the atmosphere without emission controls. The melting and casting process produces no wastewater.

The cast grids are made into battery anode and cathode plates by the application of a lead oxide paste of 70 percent lead oxide (PbO) and 30 percent metallic lead. Lead ingots are tumbled in a ball mill with air producing lead oxide and fine lead dust (referred to as "leady oxide"). Leady oxide particulates are entrained in the mill exhaust air, which is treated sequentially by a cyclone separator and fabric filter. The used fabric filter bags are shipped to a RCRA-permitted commercially operated hazardous waste landfill located in Colorado. The leady oxide production process does not produce wastewater.

The leady oxide is mixed with metallic lead, water, sulfuric acid, and additives in a paste mixer to form battery paste, which is applied to the lead grids to form battery plates. Lead and lead oxide dust are emitted from the paste mixer during charging of the dry materials, and from the mixer exhaust during wet mixing. The mixer is vented to a fabric filter during charging and to a wet scrubber during wet mixing. The fabric filter and wet scrubber vent to the same stack. The paste mixing and application process produces wastewater from the wet scrubber blowdown and also from washdown of the paste mixing equipment and mixing area. Scrubber blowdown is treated on-site. Solids collected in a scrubber sump are returned to the off-site smelter for recovery and reuse. Solids collected in an evaporation pond are not recovered. Washdown water is treated in a multi-stage settler and entirely reused in the paste mixing process. Sludge collected in the settler is recycled. Small amounts of particulates are released to the atmosphere during paste application. These emissions are not ducted to a stack or controlled.

The plates are then dried and cured under controlled temperature and humidity conditions. The plate drying and curing operation produces no wastewater or particulate emissions. Cured plates are sent to a three-process operation that involves manual separation of the plates, stacking them with non-conducting separators, and the welding on of metallic lead battery leads (pronounced "leeds") and lead terminals. The plates are then assembled into battery cases.

Particulate emissions of battery paste result from the manual separation, stacking, and handling of the battery plates. Lead fumes are emitted from the burning process. Exhaust gases from the three-process operation are treated by a fabric filter, and the collected particulates are returned to the smelter for recovery and reuse. The three-process operation produces no lead-containing wastewater, as only non-contact cooling water is used in the burning process. [Note: Even though lead is contained in the cooling water used by your facility (in the form of dissolved and suspended solids), you are not required to report releases of lead discharged with the cooling water because the lead is naturally occurring and not added in the battery production process.]

Sulfuric acid is added to the assembled batteries and the plates are formed within the batteries by applying electric voltage. The formation process oxidizes the lead oxide in the positive plates to lead peroxide and reduces the lead oxide in the negative plates to metallic lead. The charging process produces an acid mist that contains small amounts of lead particulate, which is released without emission controls.

Acid used in the formation process is removed from the batteries and reused. The batteries are washed, fresh acid is added, and the batteries are tested, re-washed, and inspected before being shipped to an on-site warehouse. The intermediate and final washes generate process wastewater, as do the battery repair and housekeeping (floor washing) operations. This wastewater is pretreated on-site and then piped to the local publicly owned treatment works (POTW).

Determining Reporting Requirements Under Section 313

To determine your eligibility for reporting under section 313, you must ascertain whether the total quantity of any listed chemical or chemical compound manufactured, processed, or used at your facility over the course of the calendar year exceeds any applicable threshold. For the facility described above, your determination of eligibility would proceed as follows. [Note: In determining eligibility, you will generate information you need to complete several portions of the form.]

Both lead (CAS number 7439-92-1) and lead compounds (a chemical category) are listed substances subject to reporting under section 313. You have decided that if any of the applicable thresholds are exceeded, you will report releases of both lead and lead compounds on the same reporting form under the listed chemical category "lead compounds." "Lead compounds" should be entered in Part III, Section 1.3, of the form. The CAS number for lead should not be entered, because that would imply that you are reporting only for lead. You should enter not applicable, NA, in the CAS number space.

According to the process description, the following activities take place at your facility involving lead and lead compounds:

- ☐ Your facility manufactures (produces) lead oxide (PbO) for on-site use/processing, which occurs in the production of lead oxide from metallic lead.
- ☐ Your facility processes metallic lead (Pb) as a reactant during lead oxide production.
- ☐ Your facility also processes metallic lead as an article component. This activity occurs at several points in the process, including during the addition of lead to the battery paste and the welding of metallic lead terminals and leads in the three-process operation.
- ☐ Your facility processes lead oxide as a reactant in the formation process, where the lead oxide in the positive battery plates is oxidized to lead peroxide.
- ☐ Your facility manufactures (produces) lead peroxide. This activity also occurs in the formation process, where lead oxide is oxidized to lead peroxide.

You must indicate all of the activities involving lead and lead compounds on Part III, Section 3, of the reporting form. (The attached completed form shows how information for this facility has been entered.)

Determining Reporting Eligibility. The manufacturing threshold quantity for the 1988 reporting year is 50,000 pounds; the threshold for processing is also 50,000 pounds. These thresholds drop to 25,000 pounds for the 1989 reporting year. Your facility both manufactures and processes, as it produces 1,500,000 batteries per year. Each battery contains 25 pounds of lead, half of which is in the form of metallic lead (anode) and half in the form of lead peroxide (cathode). The total amount of lead compounds manufactured during the reporting year is the 18,750,000 pounds of lead peroxide, which exceeds the threshold for manufacturing. Similarly, the amounts of lead processed as an article component (18,750,000 pounds) and of lead compounds processed (18,750,000 pounds) each exceed the threshold for processing. [Note: These amounts are not first combined before being compared to the processing threshold, because both lead and lead compounds are separately listed chemicals. If you added the amount of lead processed into lead oxide to that then processed into lead peroxide, you would be double counting.] For sequential processes, use the amount of the final process material to determine whether the threshold is exceeded. Since your facility employs more than 10 people and falls within SIC codes 20-39, your facility must report under section 313. [Note: Once any of the applicable thresholds for lead compounds are exceeded, you are required to identify all manufacturing, processing, and use activities. You must report all releases of all lead compounds present at your facility, regardless of the activity from which they originate unless there is a specifically exempted use, such as the use of an article or use of water naturally containing lead.]

Calculating the Maximum Quantity of Lead and Lead Compounds. To calculate the maximum amount of lead and lead compounds present at your facility at any one time, you must consider all types of metallic lead and all types of lead compounds present at your facility, including stockpiled raw materials (i.e., lead ingots), lead and lead oxide present in process equipment (i.e., molten lead contained in the grid casting system, lead and lead oxide contained in the paste mixer), the inventory of metallic lead and lead peroxide contained in finished batteries stored on-site, and stockpiled lead scrap. Since the reporting form is being prepared for lead compounds, the maximum amount reported is the total of the inventories of these materials. The maximum amount of metallic lead (2,305,000 pounds), lead oxide (205,000 pounds), and lead peroxide (625,000 pounds) present at your facility is 3,135,000 pounds, which is between 1,000,000 and 9,999,999 pounds. You would therefore report range 06 on Part III, Section 4, of the reporting form.

Calculation of Releases of Lead

Releases to Air. In April 1988, you conducted stack tests to determine air releases from the battery facility. The release data provided baseline data for a proposed 1989 air emission reduction program. The tests were performed using EPA Reference Method 12, which determines exhaust concentrations as total elemental lead, and EPA Reference Methods 1-4, which determine total exhaust volumes. Releases from all stacks and vents at the facility were measured, including those from the following release points:

- ☐ Grid casting furnace and casting machine;
- ☐ Lead oxide mill fabric filter exhaust;
- ☐ Paste mixer wet scrubber exhaust;
- ☐ Paste mixer fabric filter exhaust; and
- ☐ Three process fabric filter exhaust.

Non-point (fugitive) air releases of lead, such as from the battery formation, grid paste application, and fabric filter dust handling areas were not determined as part of the stack testing program. These have been estimated by your facility's engineering department to be less than 100 pounds per year. Measurements of the inlet lead concentrations to the wet scrubber or fabric filters were not performed. The process conditions (e.g., temperature, exhaust rate) of the grid casting furnace were changed significantly in June 1988 in response to the stack test results. Current lead releases are estimated by the engineering department to be 75 percent of those measured during the stack test.

The total releases to air from the facility must be entered in Part III, Section 5, of the form. The stack test results provide the concentration of metallic lead in each exhaust stream in grains per cubic foot and the exhaust rate in cubic feet per minute. You are required to report releases or release ranges in pounds per year. Using the appropriate conversion factors, knowing the scrubber efficiency (from the manufacturer's data), and assuming your facility operates 24 hours per day, 300 days per year, you can calculate the total lead releases from the stack test data. Because point (stack) releases of lead are 2400 lb/yr, which is greater than 999 lb/yr, you must enter the actual calculated amount in column A.2 of Section 5.2. Non-point (fugitive) air releases are 100 lb/yr (which is less than 999 lb/yr), so you may either enter the actual calculated amount in column A.2, or enter the appropriate range (1-499 lb/yr) in column A.1. The basis for the estimate of fugitive emissions, entered in column B of Section 5, is engineering calculations (code O). The basis for the estimate of stack emissions, entered in column B of Section 5, is monitoring data (code M). Although engineering calculations were used to estimate releases from the grid casting process, actual emissions test data were used to calculate more than 50 percent of the total stack emissions, so code M is appropriate.

Releases to Water. The only release of lead to a receiving stream or water body comes from stormwater. Lead ingots shipped from the off-site smelter are stored on a concrete pad in an open area at your facility. Lead dust is entrained in the stormwater runoff from the ingot storage area. You have monitoring data concerning the concentration of lead in stormwater releases from the facility property. Therefore, using precipitation volumes and run-off coefficients appropriate to the site, you are able to estimate that releases of lead compounds to the nearby stream total 6.2 pounds per year. Since the total quantity of lead released is less than 999 lb/yr, you may enter the actual amount calculated in column A.2 of Section 5.3.1a, or mark the applicable range (1-499 lb/yr) in column A.1, as is shown in the sample. Your facility has no process discharges to surface waters except stormwater. You must therefore report in Part III, Section 5.3.1c, that 100 percent of the lead released from your facility to surface water is from stormwater. The basis for the estimate of stormwater emissions, entered in column B of Section 5.3.1, is monitoring data (code M). The number for the receiving stream or water body you designated in Part I, Section 3.10 must be entered.

Wastewater from the grid paste application process is entirely recycled within the process after treatment in a multi-stage settler. Wastewater from the grid paste mixer wet scrubber is piped to an on-site surface impoundment and evaporated after treatment by a single-stage separator (settling tank) and pH adjustment for chemical precipitation. Wastewater from other process areas is treated in the wastewater pretreatment system and piped to the POTW. The following sections on Releases to Land and Discharge to POTW illustrate reporting of these wastes.

Releases to Underground Injection. Your facility performs no underground injection and therefore has no Underground Injection Well Code identification number. Not applicable, NA, should be entered in Part I, Section 3.11 and in column A.2 of Part III, Section 5.4.

Releases to Land. Wastewater from the grid paste mixing scrubber is discharged to a surface impoundment and evaporated. Although your facility historically has removed lead sludge from the surface impoundment each year, this has not been done for the past two years, as process changes have caused the sludge to accumulate more slowly than in previous years. Therefore, the impoundment must be considered an on-site land disposal unit, and releases to the impoundment must be reported in Part III, Section 5.5.1, of the form, and not in Part III, Section 5.3.

The facility wastewater monitoring program does not determine the concentration of lead and lead compounds in the scrubber discharge water, and releases to the surface impoundment (releases to land) must be calculated from material balance information. These releases to land are determined from the amount of lead removed by the scrubber (using the efficiency data provided by the scrubber manufacturer). The volume of the scrubber blowdown is found to be 1,500 pounds per year. Enter the estimate of the amount of lead and lead compounds released to surface impoundments in the space provided in Part III, Section 5.5.3 of the form. Because releases of lead to the surface impoundment are greater than 999 lb/yr, you must enter the actual calculated amount in column A.2 of Section 5.5.1. The basis for the estimate of releases to the impoundment, entered in column B of Section 5, is mass balance calculations (code C).

Calculation of Transfers of Lead to Off-Site Locations

Discharge to POTW. Wastewater from battery wash and battery repair operations at your plant is discharged to the local POTW. The discharge monitoring system data collected by your plant provide the concentration of metallic lead in each wastewater stream discharged to the POTW in milligrams/liter and the flow rate in liters per minute. Your facility also monitors the inlet concentration to the on-site wastewater treatment system to determine the treatment system efficiency. You are required to report releases or release ranges in pounds per year. Assuming your facility operates 24 hours a day, 300 days a year, using appropriate conversion factors and the monitoring data (i.e., lead concentrations and wastewater volumes), the release is calculated to be 11 pounds per year. The total releases to the POTW from the facility must be entered in Part III, Section 6.1, of the form. Because the releases of lead are less than 999 lb/yr, you may mark the appropriate range in column A.1 or enter the actual calculated amount in column A.2 of Section 6.1.1. You must report information concerning the multi-stage settler, single-stage settler, and pH adjustment (chemical precipitation) on Part III, Section 7, of the form, as these systems constitute wastewater treatment systems. You must also enter the name of the POTW in Part II, Section 1.1.

Transfers to Other Off-Site Locations. Your facility returns the lead particulate collected by the fabric filters to the off-site smelter for recovery and reuse. You are not required to report releases of listed substances to off-site recovery facilities; therefore, no information concerning the off-site smelter should be entered in Part III, Sections 6.2.1, 6.2.2, or 6.2.3, of the form. Your facility discharges used fabric filter bags contaminated with lead particulate to a commercial RCRA landfill located in Colorado. The RCRA I.D. number for the off-site facility is COD554698764. The plant engineering department estimates that the annual shipment of fabric filter bags contain less than 500 pounds of lead. You may therefore report the release as a range in column A.1 of Section 6.2.1. The basis for the estimate of solid waste emissions, entered in column B of Section 6.2.1, is engineering calculations (code O), and the location and RCRA I.D. number of the commercial landfill is entered in Part II, Section 2.1, of the form.

Estimation of Treatment System Efficiencies and Influent Concentrations

Information on the types of treatment systems and their treatment efficiencies is required to be entered in Part IV, Section 7, of the form. For air emission treatment systems use code A, for wastewater treatment systems use code W, and for solid waste treatment systems use code S in column 1 of Section 7 of the form. Table III of the instructions for Form R provides treatment codes to be entered in column B of Section 7.

Air Treatment Systems. Fabric filters and cyclone collectors are considered to be mechanical separation systems; the treatment code for these systems is A06. The treatment code for wet scrubbers is A03. Information on each air treatment system must be entered individually in Section 7. The cyclone collector and fabric filter on the lead oxide mill exhaust are considered to be sequential treatment systems, because both systems treat the same wastestream in sequence. Therefore, sequential treatment *must be indicated* for both systems in column D of Section 7. You are required to indicate the influent concentration only to the first step of the sequential treatment system (the cyclone collector) and must report the overall treatment efficiency of the system entered on the line for the last treatment step (the fabric filter). Note that the wet scrubber and fabric filter on the grid paste mixer exhaust are not sequential treatment steps, because each treats a different wastestream generated at different times during the same process.

In Section 7, columns C and E, respectively, you must indicate the range of influent concentration and treatment efficiency for each treatment system listed. You must estimate the efficiency and influent concentration of each air emission treatment system, as the stack test program did not determine influent concentrations. You have manufacturers' data on the efficiency of each treatment system and should use this information along with effluent concentration data to estimate the influent concentrations. The efficiency estimates for air treatment systems are not based on operating data; this must be indicated in column F of Section 7.

Wastewater Treatment Systems. The POTW discharge monitoring system provides actual operating data concerning the removal efficiencies, and influent and effluent concentrations of all wastewater treatment systems at your facility except the single-stage settler. The pH adjustment (chemical precipitation) and filtration steps used in the wastewater pretreatment system are considered to be sequential treatment steps, as are the single-stage settler, pH adjustment, and evaporation (the surface impoundment) used to treat the grid paste application discharge. The treatment code for chemical precipitation (lime or sodium hydroxide) is C01, and the code for filtration is P12.

The treatment code for treatment of grid paste application washwater in the multi-stage settler is P11 (settling/clarification), and the treatment code for process reuse of the wastewater is R99 (other recovery/reuse). The code for evaporation of wastewater in the surface impoundment is P99 (other physical treatment). The overall treatment efficiencies for the grid paste application discharge and scrubber discharge are both 100 percent, because the wastewater streams are completely eliminated through evaporation and reuse respectively. Note that you do not report the precipitation of lead in the surface impoundment as "metals recovery," because you no longer remove the lead sludge from the impoundment for reuse. This will be considered disposal to land for the 1,500 pounds of lead that were sent to the impoundment.

Information on Waste Minimization. Your facility formerly shipped the lead-containing sludge from the multi-stage settler used to treat the grid paste application wastewater to an off-site disposal facility. In 1987, however, process modifications allowed you to return the sludge to the off-site smelter operated by your company for recovery and reuse, resulting in significant cost-savings. The most significant savings is in the cost of treating the sludge; the value of the recovered lead is less significant. The amount of lead formerly disposed of at the off-site facility is approximately 100 lb/yr; the same amount is now recovered by the smelter. The code for the type of modification is M2 (recovery off-site) and that for the reason for action is R2 (reduction in treatment/disposal cost). The index value of 1.0 is based on the fact that production of batteries was approximately the same in both years.

Completion of the Section 313 Reporting Form

As shown in the sample form that follows, your facility information is entered in Part I of the reporting form. The reporting year, Dun and Bradstreet Number, EPA Identification Number and other required information have been entered. The sample report contains no trade secret information and has been completed for an entire covered facility, as previously described. All non-applicable information on the form has been marked NA. The vice president of your facility has been briefed on the information contained in the report and has signed the certification (Part I, Section 2). If separate reports were being prepared for lead and lead compounds, your vice president would have signed each reporting form. The completed form is now ready to be submitted to EPA and the appropriate State agency.

Form Approved OMB No.: 2070-0093
Approval Expires: 01/91

(Important: Type or print; read instructions before completing form.)

Page 1 of 5

EPA U.S. Environmental Protection Agency

TOXIC CHEMICAL RELEASE INVENTORY REPORTING FORM

Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act

Public reporting burden for this collection of information is estimated to vary from 30 to 34 hours per response, with an average of 32 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch (PM-223), US EPA, 401 M St., SW, Washington, D.C. 20460 Attn: TRI Burden and to the Office of Information and Regulatory Affairs, Office of Management and Budget Paperwork Reduction Project (2070-0093), Washington, D.C. 20603.

EPA FORM R	**PART I. FACILITY IDENTIFICATION INFORMATION**	(This space for your optional use.)

1.	1.1 Are you claiming the chemical identity on page 3 trade secret? [ ] Yes (Answer question 1.2; Attach substantiation forms.) [x] No (Do not answer 1.2; Go to question 1.3.)	1.2 If "Yes" in 1.1, is this copy: [ ] Sanitized [ ] Unsanitized	1.3 Reporting Year 19 88

2. CERTIFICATION (Read and sign after completing all sections.)

I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on reasonable estimates using data available to the preparers of this report.

Name and official title of owner/operator or senior management official
Mr. Stanley L. Pirx, III, Vice President, Battery Products Division

Signature: Stanley L. Pirx, III
Date signed: February 12, 1989

3. FACILITY IDENTIFICATION

3.1	Facility or Establishment Name Pirx-Lewis, Inc., Battery Products Div.	
	Street Address 10545 Cerillos Road	
	City Albuquerque	County Bernadillo
	State NM	Zip Code 81103-0420

WHERE TO SEND COMPLETED FORMS:

1. U.S. ENVIRONMENTAL PROTECTION AGENCY
P.O. BOX 70266
WASHINGTON, DC 20024-0266
ATTN: TOXIC CHEMICAL RELEASE INVENTORY
2. APPROPRIATE STATE OFFICE (See instructions Appendix E)

3.2	This report contains information for (Check one): a. [x] An entire facility b. [ ] Part of a facility.	
3.3	Technical Contact Mr. Roberto Garcia	Telephone Number (include area code) (505) 752-5360
3.4	Public Contact Ms. Sandy A. Range	Telephone Number (include area code) (505) 752-5363

3.5	SIC Code (4 digit) a. 3691	b. NA	c.	d.	e.	f.

	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
3.6	35	10	00	106	30	00

3.7	Dun & Bradstreet Number(s) a. 91-976-2270	b. NA
3.8	EPA Identification Number(s) (RCRA I.D. No.) a. NMD919762270	b. NA
3.9	NPDES Permit Number(s) a. NA	b.
3.10	Receiving Streams or Water Bodies (enter one name per box) a. Tijeros Arroyo	b. NA
	c.	d.
	e.	f.
3.11	Underground Injection Well Code (UIC) Identification Number(s) a. NA	b.

4. PARENT COMPANY INFORMATION

4.1	Name of Parent Company Cibola Motor Works
4.2	Parent Company's Dun & Bradstreet Number 91-783-4567

EPA Form 9350-1 (1-89) Revised—Do not use previous versions.

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(Important: Type or print; read instructions before completing form.)

EPA

EPA FORM R
PART II. OFF-SITE LOCATIONS TO WHICH TOXIC CHEMICALS ARE TRANSFERRED IN WASTES

(This space for your optional use.)

1. PUBLICLY OWNED TREATMENT WORKS (POTWs)

1.1 POTW name City of Albuquerque Treatment Works		**1.2 POTW name** NA	
Street Address 50100 U.S. Route 66		**Street Address**	
City Albuquerque	**County** Bernadillo	**City**	**County**
State NM	**Zip** 87105-9987	**State**	**Zip**

2. OTHER OFF-SITE LOCATIONS (DO NOT REPORT LOCATIONS TO WHICH WASTES ARE SENT ONLY FOR RECYCLING OR REUSE).

2.1 Off-site location name Colorado Waste Disposal, Inc.		**2.2 Off-site location name**	
EPA Identification Number (RCRA ID. No.) COD554698764		**EPA Identification Number (RCRA ID. No.)** NA	
Street Address 10500 County Route 76		**Street Address**	
City Golden	**County** Jefferson	**City**	**County**
State CO	**Zip** 80305-1311	**State**	**Zip**
Is location under control of reporting facility or parent company? [ ] Yes [X] No		Is location under control of reporting facility or parent company? [ ] Yes [ ] No	

2.3 Off-site location name		**2.4 Off-site location name**	
EPA Identification Number (RCRA ID. No.)		**EPA Identification Number (RCRA ID. No.)**	
Street Address		**Street Address**	
City	**County**	**City**	**County**
State	**Zip**	**State**	**Zip**
Is location under control of reporting facility or parent company? [ ] Yes [ ] No		Is location under control of reporting facility or parent company? [ ] Yes [ ] No	
2.5 Off-site location name		**2.6 Off-site location name**	
EPA Identification Number (RCRA ID. No.)		**EPA Identification Number (RCRA ID. No.)**	
Street Address		**Street Address**	
City	**County**	**City**	**County**
State	**Zip**	**State**	**Zip**
Is location under control of reporting facility or parent company? [ ] Yes [ ] No		Is location under control of reporting facility or parent company? [ ] Yes [ ] No	

[ ] Check if additional pages of Part II are attached. How many? ________

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(Important: Type or print; read instructions before completing form.)

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EPA FORM R
PART III. CHEMICAL-SPECIFIC INFORMATION

(This space for your optional use.)

1. CHEMICAL IDENTITY(Do not complete this section if you complete Section 2.)	
1.1	[Reserved]
1.2	CAS Number (Enter the number exactly as it appears on the 313 list. Enter NA if reporting a chemical category.) NA
1.3	Chemical or Chemical Category Name (Enter the name exactly as it appears on the 313 list.) Lead Compounds
1.4	Generic Chemical Name (Complete only if Part I, Section 1.1 is checked "Yes." Generic name must be structurally descriptive.)

2.	**MIXTURE COMPONENT IDENTITY** (Do not complete this section if you complete Section 1.) Generic Chemical Name Provided by Supplier (Limit the name to a maximum of 70 characters (e.g., numbers, letters, spaces, punctuation).)

3. ACTIVITIES AND USES OF THE CHEMICAL AT THE FACILITY (Check all that apply.)

3.1	Manufacture the chemical:	a. [x] Produce b. [ ] Import	If produce or import: c. [x] For on-site use/processing e. [ ] As a byproduct	d. [ ] For sale/distribution f. [ ] As an impurity
3.2	Process the chemical:	a. [x] As a reactant d. [ ] Repackaging only	b. [ ] As a formulation component	c. [x] As an article component
3.3	Otherwise use the chemical:	a. [ ] As a chemical processing aid	b. [ ] As a manufacturing aid	c. [ ] Ancillary or other use

4. MAXIMUM AMOUNT OF THE CHEMICAL ON-SITE AT ANY TIME DURING THE CALENDAR YEAR

0 6 (enter code)

5. RELEASES OF THE CHEMICAL TO THE ENVIRONMENT ON-SITE

You may report releases of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)			A. Total Release (lbs/yr) A.1 Reporting Ranges 0	1-499	500-999	A.2 Enter Estimate		B. Basis of Estimate (enter code)	C. % From Stormwater
5.1 Fugitive or non-point air emissions		5.1a	[ ]	[x]	[ ]		5.1b	O	
5.2 Stack or point air emissions		5.2a	[ ]	[ ]	[ ]	2400	5.2b	M	
5.3 Discharges to receiving streams or water bodies	5.3.1 A	5.3.1a	[ ]	[x]	[ ]		5.3.1b	M	5.3.1c 100
(Enter letter code from Part I Section 3.10 for stream(s) in the box provided.)	5.3.2 ☐	5.3.2a	[ ]	[ ]	[ ]	NA	5.3.2b	☐	5.3.2c NA
	5.3.3 ☐	5.3.3a	[ ]	[ ]	[ ]		5.3.3b	☐	5.3.3c
5.4 Underground injection		5.4a	[ ]	[ ]	[ ]	NA	5.4b	☐	
5.5 Releases to land 5.5.1 On-site landfill		5.5.1a	[ ]	[ ]	[ ]	NA	5.5.1b	☐	
5.5.2 Land treatment/application farming		5.5.2a	[ ]	[ ]	[ ]	NA	5.5.2b	☐	
5.5.3 Surface impoundment		5.5.3a	[ ]	[ ]	[ ]	1500	5.5.3b	C	
5.5.4 Other disposal		5.5.4a	[ ]	[ ]	[ ]	NA	5.5.4b	☐	

[ ] (Check if additional information is provided on Part IV-Supplemental Information.)

(Important: Type or print; read instructions before completing form.)

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EPA FORM R

PART III. CHEMICAL-SPECIFIC INFORMATION (continued)

(This space for your optional use.)

6. TRANSFERS OF THE CHEMICAL IN WASTE TO OFF-SITE LOCATIONS

You may report transfers of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)		A. Total Transfers (lbs/yr) A.1 Reporting Ranges 0	1-499	500-999	A.2 Enter Estimate	B. Basis of Estimate (enter code)	C. Type of Treatment/ Disposal (enter code)
6.1.1 Discharge to POTW (enter location number from Part II, Section 1.)	1.1	[ ]	[x]	[ ]		6.1.1b M	
6.2.1 Other off-site location (enter location number from Part II, Section 2.)	2.1	[ ]	[x]	[ ]		6.2.1b 0	6.2.1c M72
6.2.2 Other off-site location (enter location number from Part II, Section 2.)	2.	[ ]	[ ]	[ ]	NA	6.2.2b	6.2.2c M
6.2.3 Other off-site location (enter location number from Part II, Section 2.)	2.	[ ]	[ ]	[ ]		6.2.3b	6.2.3c M

[ ] (Check if additional information is provided on Part IV-Supplemental Information.)

7. WASTE TREATMENT METHODS AND EFFICIENCY

A. General Wastestream (enter code)	B. Treatment Method (enter code)	C. Range of Influent Concentration (enter code)	D. Sequential Treatment? (check if applicable)	E. Treatment Efficiency Estimate	F. Based on Operating Data? Yes	No
7.1a A	7.1b A06	7.1c 3	7.1d [x]	7.1e NA %	7.1f [ ]	[ ]
7.2a A	7.2b A06	7.2c	7.2d [x]	7.2e 99.5 %	7.2f [ ]	[x]
7.3a A	7.3b A06	7.3c 3	7.3d [ ]	7.3e 98.0 %	7.3f [ ]	[x]
7.4a A	7.4b A03	7.4c 3	7.4d [ ]	7.4e 90.0 %	7.4f [ ]	[x]
7.5a A	7.5b A06	7.5c 3	7.5d [ ]	7.5e 98.0 %	7.5f [ ]	[x]
7.6a W	7.6b P11	7.6c 2	7.6d [x]	7.6e NA %	7.6f [ ]	[ ]
7.7a W	7.7b C01	7.7c	7.7d [x]	7.7e NA %	7.7f [ ]	[ ]
7.8a W	7.8b P99	7.8c	7.8d [x]	7.8e 100 %	7.8f [x]	[ ]
7.9a W	7.9b P11	7.9c 2	7.9d [x]	7.9e NA %	7.9f [ ]	[ ]
7.10a W	7.10b R99	7.10c	7.10d [x]	7.10e 100 %	7.10f [x]	[ ]

[x] (Check if additional information is provided on Part IV-Supplemental Information.)

8. OPTIONAL INFORMATION ON WASTE MINIMIZATION

(Indicate actions taken to reduce the amount of the chemical being released from the facility. See the instructions for coded items and an explanation of what information to include.)

A. Type of Modification (enter code)	B. Quantity of the Chemical in Wastes Prior to Treatment or Disposal Current reporting year (lbs/yr)	Prior year (lbs/yr)	Or percent change	C. Index	D. Reason for Action (enter code)
M2	121,700	121,800	%	1.0	R2

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(Important: Type or print; read instructions before completing form.)

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EPA FORM R
PART IV. SUPPLEMENTAL INFORMATION

Use this section if you need additional space for answers to questions in Part III. Number the lines used sequentially from lines in prior sections (e.g., 5.3.4, 6.1.2, 7.11)

(This space for your optional use.)

ADDITIONAL INFORMATION ON RELEASES OF THE CHEMICAL TO THE ENVIRONMENT ON-SITE (Part III, Section 5.3)

You may report releases of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)		A. Total Release (lbs/yr) A.1 Reporting Ranges 0 / 1–499 / 500–999	A.2 Enter Estimate	B. Basis of Estimate (enter code in box provided)	C.% From Stormwater
5.3 Discharges to receiving streams or water bodies 5.3.___ ☐	5.3.___a	[ ] [ ] [ ]		5.3.___b ☐	5.3.___c
(Enter letter code from Part I Section 3.10 for stream(s) in the box provided.) 5.3.___ ☐	5.3.___a	[ ] [ ] [ ]		5.3.___b ☐	5.3.___c
5.3.___ ☐	5.3.___a	[ ] [ ] [ ]		5.3.___b ☐	5.3.___c

ADDITIONAL INFORMATION ON TRANSFERS OF THE CHEMICAL IN WASTE TO OFF-SITE LOCATIONS (Part III, Section 6)

You may report transfers of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)	A. Total Transfers (lbs/yr) A.1 Reporting Ranges 0 / 1–499 / 500–999	A.2 Enter Estimate	B. Basis of Estimate (enter code in box provided)	C. Type of Treatment/ Disposal (enter code in box provided)
6.1.___ Discharge to POTW (enter location number from Part II, Section 1.) 1.☐	[ ] [ ] [ ]		6.1.___b ☐	
6.2.___ Other off-site location (enter location number from Part II, Section 2.) 2.☐	[ ] [ ] [ ]		6.2.___b ☐	6.2.___c M☐☐
6.2.___ Other off-site location (enter location number from Part II, Section 2.) 2.☐	[ ] [ ] [ ]		6.2.___b ☐	6.2.___c M☐☐
6.2.___ Other off-site location (enter location number from Part II, Section 2.) 2.☐	[ ] [ ] [ ]		6.2.___b ☐	6.2.___c M☐☐

ADDITIONAL INFORMATION ON WASTE TREATMENT METHODS AND EFFICIENCY (Part III, Section 7)

A. General Wastestream (enter code in box provided)	B. Treatment Method (enter code in box provided)	C. Range of Influent Concentration (enter code)	D. Sequential Treatment? (check if applicable)	E. Treatment Efficiency Estimate	F. Based on Operating Data? Yes / No
7.11a W	7.11b C01	7.11c 3	7.11d [x]	7.11e NA %	7.11f [ ] [ ]
7.12a W	7.12b P12	7.12c ☐	7.12d [x]	7.12e 85.0%	7.12f [x] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]

APPENDIX B

HOW TO DETERMINE LATITUDE AND LONGITUDE FROM TOPOGRAPHIC MAPS

Latitude is the distance north or south of the equator. Longitude is the distance east or west of the prime meridian (Greenwich, England). Latitude and longitude are measured in seconds, minutes, and degrees.

60" (seconds) = 1' (minute)
60' (minutes) = 1° (degree)

To determine the latitude and longitude of your facility you will need the following:

- ☐ Topographic map from United States Geological Survey (USGS)
- ☐ Ruler graduated in decimal units (cm or inches)
- ☐ Pencil
- ☐ Small calculator (optional).

How to Obtain USGS Maps

USGS maps used for determining latitude and longitude may be obtained from the USGS distribution center. These maps are available in both the 7.5 minute and 15 minute series. For maps of the United States, including Alaska, Hawaii, American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands, contact:

Branch of Distribution
U.S. Geological Survey
Box 25286 Federal Center
Denver, CO 80225

If you are not sure on which map your site is located, consult an index to topographic maps for your state, which USGS will provide free of charge. USGS maps cost about $3.00 and are often available in local libraries and at commercial dealers such as surveyors or outdoor recreation equipment dealers. The index for your state lists these alternative sources for obtaining maps. If you need help in determining your facility's latitude and longitude, the National Cartographic Information Center located in Denver can provide assistance. The Center can be contacted at (303) 236-5829.

Determining Your Facility's Latitude and Longitude

(See diagram next page.)

Once you have obtained the correct map for your facility, follow these steps:

1. Mark the location of your facility on the map with a point. If your facility is large, choose a point central to the production activities of the facility. If certain structures in your facility are represented on the map, mark one of the structures with a point.

2. Construct a small quadrangle (a four-sided figure) around the point with fine pencil lines connecting the nearest 2 1/2' or 5' graticules. Graticules are intersections of latitude and longitude lines that are marked on the map edge, and appear as black crosses at four points in the interior of the map.

3. Read and record the latitude and longitude for the southeast corner of the small quadrangle drawn in step two. The latitude and longitude are printed at the edges of the map.

4. To determine the increment of latitude above the latitude line recorded in step 3,

   - position the map so that you face its west edge;
   - place the ruler in approximately a north-south alignment, with the "0" on the latitude line recorded in step 3 and the edge intersecting the point.

   Without moving the ruler, read and record:

   - the measurement from the latitude line to the desired point (the point distance);
   - the measurement from the latitude line to the north line of the small quadrangle (the total distance).

   Determine the number of seconds to be added to the latitude recorded in step 3 by using the ratio:

$$\left[\frac{\text{Point distance}}{\text{Total distance between lines}}\right] \times 150'' = \text{increment of latitude}$$

[Note: 150" is the number of seconds of arc for the side of the small quadrangle on a 7.5' map. If you are using a 15' map, the multiplication factor is 300" instead of 150" since each graticule is 5' of latitude or longitude.]

For example:

Point distance = 99.5
Total distance = 192.0

$$\frac{99.5}{192.0} \times 150'' = 77.7'' = 01'\,17.7''$$

(60" = 1'; 77.7" - 60" = 01' 17.7")

Latitude in step 3 : 32°17'30"
Increment : + 01'17.7"
Latitude of point : 32°18'47.7"

to the nearest second = 32°18'48"

5 .To determine the increment of longitude west of the longitude line recorded in step 3,

- position the map so that you face its south edge;
- place the ruler in approximately an east-west alignment with the "0" on the longitude line recorded in step 3 and the edge intersecting the point.

Without moving the ruler, read and record:

- the measurement from the longitude line to the desired point (the point distance);
- the measurement from the longitude line to the west line of the small quadrangle (the total distance).

Determine the number of seconds to be added to the longitude recorded in step 3 by using the ratio:

$$\left[\frac{\text{Point distance}}{\text{Total distance between lines}}\right] \times 150'' = \text{increment of longitude}$$

For example:

Point distance = 65.0
Total distance = 149.9

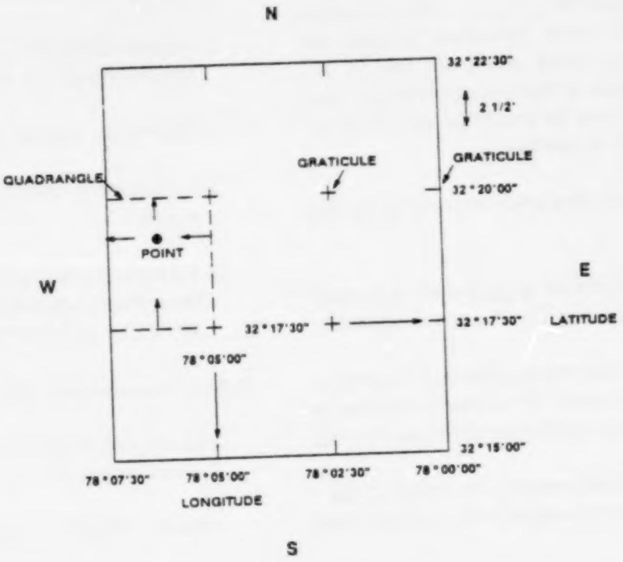
$$\frac{65.0}{149.9} \times 150'' = 66.4'' = 01'06.4''$$

(60" = 1'; 66.4" - 60" = 01'06.4")

Longitude in step 4 : 78°05'00"
Increment : + 01'06.4"
Longitude of point : 78°06'06.4"

to the nearest second = 78°06'06"

Latitude/Longitude Diagram



Point: Latitude 32° 18'48" North
Longitude 78° 06'06" West

Note: This diagram is based on a USGS 7.5 Minute Series Topographic Map.
Not drawn to scale.

APPENDIX C

WORKSHEET FOR PERFORMING THRESHOLD DETERMINATIONS

1. Identify all chemicals used on-site. This survey will include all chemicals purchased, produced, present as impurities/by-products, intermediate chemicals, and chemicals produced during waste treatment. Sources of information on chemicals used are:

   ☐ Purchasing department, which should have a list of all items the facility has purchased; and

   ☐ Process engineers, production supervisors, maintenance supervisors, and plant managers, who can identify the purchased items that are actually chemicals and other chemicals used which may not enter the plant as purchased items, such as by-products, impurities, intermediates, or chemicals formed as part of a waste treatment process.

2. Determine what the chemical is used for from the personnel in the operation actually using the chemical. If the chemical is used for routine janitorial services, operation or maintenance or transportation equipment, or is used in the laboratory under the supervision of qualified personnel it should be excluded from threshold determinations.

3. Fill in columns A, B, and C of Table I for all chemicals or mixtures containing section 313 chemicals identified in Step I and not excluded from Step 2. For purchased chemicals, the material safety data sheet (MSDS) may have a list of all components which are section 313 chemicals. For chemicals or mixtures generated on-site, the process personnel may be able to provide compositions. Several points to remember:

   ☐ Check MSDSs for impurities which may also be section 313 chemicals;

   ☐ The section 313 chemical list is not the same as toxic chemical lists developed by OSHA or other agencies;

   ☐ For chemicals which are only reportable if they are in solution form, only the weight of the chemical is used in threshold determination, not the weight of the solution;

   ☐ For compounds containing metals, the weight of the compound is used, not the weight of the parent metal; and

   ☐ Do not perform threshold determinations or report chemicals which are not on the section 313 list.

   For pure components, columns A and B may be identical. For mixtures, there may be multiple entries in column B if the mixture contains more than one section 313 chemical.

4. Determine the amount of the chemical or mixture used by filling the appropriate columns in Table 2 based on the data you have available and what data you believe to be the most accurate. If a chemical/mixture has multiple uses (e.g., it is produced and otherwise used), do separate estimates for the different uses and make two entries for this chemical/mixture in Table 1.

   If a basis other than purchases/inventories or production rate is used, attach calculations showing how the use was derived to Table 2.

5. Calculate values for column E for each specific chemical compound or category present in the mixture. For pure compounds, columns D and E will have the same value.

6. Determine the type of use and mark the appropriate column (i.e., M = manufacture, P = processed, O = otherwise used).

7. Complete Table 3. Take values from column E for each specific chemical and sum them. Do separate calculations for chemicals with different uses.

8. From Table 3 identify all chemicals which exceed the applicable threshold. Points to remember:

   ☐ For chemicals with multiple uses, if you exceed any threshold then the chemicals must be reported.

   ☐ For metals, use the mass of the metal compound.

   ☐ For solutions, use the weight of the chemical, not the solution.

   ☐ If a specific chemical belongs in a chemical category, other chemicals in that category should be included as part of the general category.

9. As a final reminder, did you:

   ☐ Check with all plant personnel who may purchase or use chemicals?

   ☐ Review MSDSs for all purchased chemicals?

   ☐ Check MSDSs of commercial grade chemicals to determine if any impurities/by-products are present?

   ☐ Check to determine if a particular chemical has multiple uses?

   ☐ Identify all chemicals produced by your process, either intentionally (products or intermediates) or unintentionally?

☐ Retain all notes, calculations, and other materials necessary to support use estimates?

TABLE 1. THRESHOLD DETERMINATION CALCULATIONS

A	B	C	D	$E = \frac{C \times D}{100}$			
Mixture or Chemical Name	Section 313 Chemical or Chemical Category Present	Weight Percent	Amount of* Chemical/ Mixture used in 1988 (from Table 2)	Amount of Section 313 Chemical Used	Type of Use*		
					M	P	O

* Refer to pages 5-6 of the instructions for an explanation of how uses are defined. M = manufactured; P = processed; O = otherwise used.

RETAIN THIS TABLE AS DOCUMENTATION OF FORM R REPORTS - DO NOT SUBMIT WITH FORM R

TABLE 2. USE CALCULATIONS

	Based on Purchases/Inventories					Based on Production			Other Basis[b]
	A	B	C=B-A	D	C+D	E	F	G=ExF	
Mixture[a] or Chemical	Beginning Inventory	Ending Inventory	Inventory Difference	Purchase	Total Used	Amount Used per Unit of Product	Amount of Product Produced	Amount Used	Amount Used

[a] From Column A, Table 1.

[b] Attach supporting documentation of how these values are determined.

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TABLE 3. SUMMARY OF AMOUNTS OF CHEMICALS USED

Section 313 Chemical	Amount * Used (1b)	Type of Use (M, P, O)

* Sum of all values in Column E of Table 1 for this chemical or chemical category for each type of use.

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APPENDIX D

REPORTING CODES FOR EPA FORM R

Part III, Section 4 - Maximum Amount of the Chemical On-Site at Any Time During the Calendar Year

Weight Range in Pounds

Range Code	From...	To....
01	0	99
02	100	999
03	1,000	9,999
04	10,000	99,999
05	100,000	999,999
06	1,000,000	9,999,999
07	10,000,000	49,999,999
08	50,000,000	99,999,999
09	100,000,000	499,999,999
10	500,000,000	999,999,999
11	1 billion	more than 1 billion

Part III, Section 5 - Releases of the Chemical to the Environment On-Site and Section 6 - Transfers of the Chemical in Waste to Off-Site Locations

M -Estimate is based on monitoring data or measurements for the toxic chemical as released to the environment and/or off-site facility.

C -Estimate is based on mass balance calculations, such as calculation of the amount of the toxic chemical in streams entering and leaving process equipment.

E -Estimate is based on published emission factors, such as those relating release quantity to through-put or equipment type (e.g., air emission factors).

O -Estimate is based on other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgment. This would include applying an estimated removal efficiency to a waste stream, even if the composition of the stream before treatment was fully characterized by monitoring data.

Part III, Section 6 - Transfers of the Chemical in Waste to Off-Site Locations

Type of Treatment/Disposal

M10	Storage Only
M40	Solidification/Stabilization
M50	Incineration/Thermal Treatment
M61	Wastewater Treatment (Excluding POTW)
M69	Other Treatment
M71	Underground Injection
M72	Landfill/Disposal Surface Impoundment
M73	Land Treatment
M79	Other Land Disposal
M90	Other Off-Site Management
M91	Transfer to Waste Broker
M99	Unknown

Part III, Section 7 - Waste Treatment Methods and Efficiency

General Waste Stream

A = Gaseous (gases, vapors, airborne particulates)
W = Wastewater (aqueous waste)
L = Liquid waste (non-aqueous waste)
S = Solid waste (including sludges and slurries)

Part III, Section 7 - Waste Treatment Methods and Efficiency

Air Emissions Treatment

A01	Flare
A02	Condenser
A03	Scrubber
A04	Absorber
A05	Electrostatic Precipitator
A06	Mechanical Separation
A07	Other Air Emission Treatment

Biological Treatment

B11	Biological Treatment -- Aerobic
B21	Biological Treatment -- Anaerobic
B31	Biological Treatment -- Facultative
B99	Biological Treatment -- Other

Chemical Treatment

C01	Chemical Precipitation -- Lime or Sodium Hydroxide
C02	Chemical Precipitation -- Sulfide
C09	Chemical Precipitation -- Other
C11	Neutralization
C21	Chromium Reduction
C31	Complexed Metals Treatment (other than pH Adjustment)
C41	Cyanide Oxidation -- Alkaline Chlorination
C42	Cyanide Oxidation -- Electrochemical

C43	Cyanide Oxidation -- Other
C44	General Oxidation (including Disinfection) -- Chlorination
C45	General Oxidation (including Disinfection) -- Ozonation
C46	General Oxidation (including Disinfection) -- Other
C99	Other Chemical Treatment

Incineration/Thermal Treatment

F01	Liquid Injection
F11	Rotary Kiln with Liquid Injection Unit
F19	Other Rotary Kiln
F31	Two Stage
F41	Fixed Hearth
F42	Multiple Hearth
F51	Fluidized Bed
F61	Infra-Red
F71	Fume/Vapor
F81	Pyrolytic Destructor
F82	Wet Air Oxidation
F83	Thermal Drying/Dewatering
F99	Other Incineration/Thermal Treatment

Physical Treatment

P01	Equalization
P09	Other Blending
P11	Settling/Clarification
P12	Filtration
P13	Sludge Dewatering (non-thermal)
P14	Air Flotation
P15	Oil Skimming
P16	Emulsion Breaking -- Thermal
P17	Emulsion Breaking -- Chemical
P18	Emulsion Breaking -- Other
P19	Other Liquid Phase Separation
P21	Adsorption -- Carbon
P22	Adsorption -- Ion Exchange (other than for recovery/reuse)
P23	Adsorption -- Resin
P29	Adsorption -- Other
P31	Reverse Osmosis (other than for recovery/reuse)
P41	Stripping -- Air
P42	Stripping -- Steam
P49	Stripping -- Other
P51	Acid Leaching (other than for recovery/reuse)
P61	Solvent Extraction (other than recovery/reuse)
P99	Other Physical Treatment

Recovery/Reuse

R01	Reuse as Fuel -- Industrial Kiln
R02	Reuse as Fuel -- Industrial Furnace
R03	Reuse as Fuel -- Boiler
R04	Reuse as Fuel -- Fuel Blending
R09	Reuse as Fuel -- Other
R11	Solvents/Organics Recovery -- Batch Still Distillation
R12	Solvents/Organics Recovery -- Thin-Film Evaporation
R13	Solvents/Organics Recovery -- Fractionation
R14	Solvents/Organics Recovery -- Solvent Extraction
R19	Solvents/Organics Recovery -- Other
R21	Metals Recovery -- Electrolytic
R22	Metals Recovery -- Ion Exchange
R23	Metals Recovery -- Acid Leaching
R24	Metals Recovery -- Reverse Osmosis
R26	Metals Recovery -- Solvent Extraction
R29	Metals Recovery -- Other
R99	Other Reuse or Recovery

Solidification/Stabilization

G01	Cement Processes (including Silicates)
G09	Other Pozzolonic Processes (including Silicates)
G11	Asphaltic Processes
G21	Thermoplastic Techniques
G99	Other Solidification Processes

Part III, Section 7 - Waste Treatment Methods and Efficiency

Range of Influent Concentration

1 = Greater than 1 percent
2 = 100 parts per million (0.01 percent) to 1 percent (10,000 parts per million)
3 = 1 part per million to 100 parts per million
4 = 1 part per billion to 1 part per million
5 = Less than 1 part per billion

[Note: Parts per million (ppm) is milligrams/kilogram (mass/mass) for solids and liquids; cubic centimeters/cubic meter (volume/volume) for gases; milligrams/liter for solutions or dispersions of the chemical in water; and milligrams of chemical/kilogram of air for particulates in air. If you have particulate concentrations (at standard temperature and pressure) as grains/cubic foot of air, multiply by 1766.6 to convert to parts per million; if in milligrams/cubic meters, multiply by 0.773 to obtain parts per million. Factors are for standard conditions of 0°C (32°F) and 760 mmHg atmospheric pressure.]

Part III, Section 8 - Optional Information on Waste Minimization

Type of Modification

M1 - Recycling/Reuse On-Site
M2 - Recycling/Reuse Off-Site
M3 - Equipment/Technology Modifications

M4 - Process Procedure Modifications
M5 - Reformulation/Redesign of Product
M6 - Substitution of Raw Materials
M7 - Improved Housekeeping, Training, Inventory Control
M8 - Other Waste Minimization Technique

Reason for Action

R1 - Regulatory Requirement for the Waste
R2 - Reduction of Treatment/Disposal Costs
R3 - Other Process Cost Reduction
R4 - Self-Initiated Review
R5 - Other (e.g., discontinuation of product, occupational safety, etc.)

APPENDIX E

STATE DESIGNATED SECTION 313 CONTACTS

[Note: Use the appropriate address for submission of Form R reports to your State.]

Alabama
Mr. E. John Williford, Chief of Operations
Alabama Emergency Response Commission
Alabama Department of Environmental Management
Field Operations Division
1751 Congressman W.G. Dickinson Drive
Montgomery, AL 36109
(205) 271-7700

Alaska
Ms. Amy Kyle, Chairman
Alaska Emergency Response Commission
Department of Environmental Conservation
P.O. Box 0
Juneau, AK 99811
(907) 465-2600

American Samoa
Mr. Pati Faiai, Director
American Samoa EPA
Office of the Governor
Pago Pago, AS 96799
International Number (684) 633-2682

Arizona
Mr. Carl F. Funk, Executive Director
Arizona Emergency Response Commission
5636 East McDowell Road
Phoenix, AZ 85008
(602) 244-0504

Arkansas
Ms. Becky Bryant
Depository of Documents
Arkansas Department of Labor
10421 West Markham
Little Rock, AR 72205
(501) 682-4534

California
Mr. Charles M. Shulock
Office of Environmental Affairs
P.O. Box 2815
Sacramento, CA 95812
Attn: Section 313 Reports
(916) 324-8124
(916) 322-7236 (Completed Form R information)

Colorado
Colorado Emergency Planning Commission
Colorado Department of Health
Division of Hazardous Materials and Waste Management
4210 East 11th Avenue
Denver, CO 80220
Ms. Pam Harley (303) 331-4858
Mr. Richard Bardsley (303) 273-1789

Commonwealth of the Northern Marianas Islands
Mr. Russell Meecham, III
Division of Environmental Quality
P.O. Box 1304
Saipan, MP 96950
(670) 234-6984

Connecticut
Ms. Sue Vaughn
State Emergency Response Commission
Department of Environmental Protection
Room 161
165 Capitol Avenue
Hartford, CT 06106
(203) 566-4856

Delaware
Mr. Phillip G. Retallick
Division of Air and Waste Management
Department of Natural Resources and Environmental Control
Richardson and Robbins Building
89 Kings Highway
Dover, DE 19901
(302) 736-4764

District of Columbia
Ms. Pamela Thurber
Environmental Planning Specialist
Office of Emergency Preparedness
2000 14th Street, NW, 8th Floor
Washington, DC 20009
(202) 727-6161

Florida
Mr. Thomas G. Pelham, Chairman
Florida Emergency Response Commission
Secretary, Florida Department of Community Affairs
2740 Centerview Drive
Tallahassee, FL 32399-2149
(904) 487-1472
(in Florida 800-635-7179)

Georgia

Mr. Jimmy Kirkland
Georgia Department of Natural Resources
205 Butler Street, S.E.
Floyd Tower East
Atlanta, GA 30334
(404) 656-6905

Guam

Mr. Charles P. Crisostomo
Guam EPA
P.O. Box 2999
Agana, GU 96910
(671) 646-8863

Hawaii

Dr. John C. Lewin, M.D., Director
Hawaii State Department of Health
P.O. Box 3378
Honolulu, HI 96801-9904
(808) 548-6505

Idaho

Ms. Jennie Records, Program Coordinator
Idaho Emergency Response Commission
State House
Boise, ID 83720
(208) 334-5898

Illinois

Mr. Joe F. Goodner, P.E.
Emergency Planning Unit
Illinois EPA
P.O. Box 19276
2200 Churchill Road
Springfield, IL 62794-9276
(217) 782-3637

Indiana

Mr. Philip Powers, Director
Indiana Department of Environmental Management
Emergency Response Branch
5500 West Bradbury Avenue
Indianapolis, IN 46241
(317) 243-5176
(317) 243-5147 (General information only)

Iowa

Mr. Jim Taylor
Iowa Emergency Response Commission
301 East 7th Street
Des Moines, IA 50319
(515) 281-6175

Kansas

Right-to-Know Program
Kansas Department of Health and Environment
Building 740, Forbes Field
Topeka, KS 66620-7430
(913) 296-1690

Kentucky

Ms. Valerie Hudson
Kentucky Department of Environmental Protection
18 Reilly Road
Frankfort, KY 40601
(502) 564-2150

Louisiana

Mr. R. Bruce Hammatt
Emergency Response Coordinator
Department of Environmental Quality
P.O. Box 44091
Baton Rouge, LA 70804-4091
(504) 342-6363

Maine

Mr. David Brown, Director
State Emergency Response Commission
State House Station 72
State Office Building
Augusta, ME 04333
(207) 289-4080
(In Maine 800-452-8735)

Maryland

Ms. Masha Ways
Toxics Information Center
SARA Title III
c/o Maryland Department of the Environment
O'Conor State Office Building
2500 Broening Highway
Baltimore, MD 21224
(301) 631-3800

Massachusetts

Mr. Arnold Sapenter
c/o Title III Emergency Response Commission
Department of Environmental Quality Engineering
One Winter Street, 10th Floor
Boston, MA 02108
(617) 292-5810

Michigan
Mr. David Warner, Director
Michigan Department of Natural Resources
Environmental Response Division
Title III Notification
P.O. Box 30028
Lansing, MI 48909
(517) 373-8481

Minnesota
Mr. Lee Tischler, Director
Minnesota Emergency Response Commission
Division of Emergency Management
Room B5
State Capitol
St. Paul, MN 55155
(612) 296-2233

Mississippi
Mr. J.E. Maher, Chairman
Mississippi Emergency Response Commission
Director, Mississippi Emergency Management Agency
P.O. Box 4501
Fondren Station
Jackson, MI 39296-4501
(601) 960-9973

Missouri
Mr. Dean Martin, Coordinator
Missouri Emergency Response Commission
Missouri Department of Natural Resources
P.O. Box 3133
Jefferson City, MO 65102
(314) 751-7929

Montana
Mr. Tom Ellerhoff, Co-Chairman
Montana Emergency Response Commission
Environmental Sciences Division
Department of Health and Environmental Sciences
Cogswell Building A-107
Helena, MT 59620
(406) 444-3948

Nebraska
Mr. Craig Bagstad
Technical Services Section
Nebraska Department of Environmental Control
P.O. Box 98922
State House Station
Lincoln, NE 68509-8922
(402) 471-4230

Nevada
Mr. Bob King, Director
Division of Emergency Management
2525 South Carson
Carson City, NV 89710
(702) 885-4240

New Hampshire
Mr. Richard H. Strome, Director
State Emergency Management Agency
State Office Park South
107 Pleasant Street
Concord, NH 03301
(603) 271-2231

New Jersey
Richard A. Dime
Department of Environmental Protection
Division of Environmental Quality
CN-405
Bureau of Hazardous Waste Information
SARA Title III Project
401 East State Street
Trenton, NJ 08625
(609) 292-6714

New Mexico
Mr. Sam Larcombe
New Mexico Emergency Response Commission
New Mexico Department of Public Safety
P.O. Box 1628
Santa Fe, NM 87504-1628
(505) 827-9222

New York
New York Department of Environmental Conservation
Bureau of Spill Response
SARA Title III Section 313
50 Wolf Road
Albany, NY 12233
(518) 457-4107

North Carolina
Mr. Vance E. Kee
North Carolina Division of Emergency Management
116 West Jones Street
Raleigh, NC 27603-1335
(919) 733-3867

North Dakota
Mr. Dean Monteith, Coordinator
North Dakota Emergency Response Commission
North Dakota State Department of Health and Consolidated Laboratories
1200 Missouri Avenue
P.O. Box 5520
Bismarck, ND 58502-5520
(701) 224-2374

Ohio
Ms. Cindy Sferra-DeWulf
Division of Air Pollution Control
1800 Watermark Drive
Columbus, OH 43215
(614) 644-2270

Oklahoma
Mr. Jack W. Muse, Coordinator
Emergency Response Commission
Office of Civil Defense
P.O. Box 53365
Oklahoma City, OK 73152
(405) 521-2481

Oregon
Oregon Emergency Response Commission
c/o Oregon State Fire Marshall
3000 Market Street Plaza
Suite 534
Salem, OR 97310
(503) 378-2885

Pennsylvania
Mr. James Tinney
Bureau of Right-to-Know
Room 1503
Labor and Industry Bldg.
Harrisburg, PA 17120
(717) 783-8150

Puerto Rico
SERC Commissioner
Title III - SARA Section 313
Puerto Rico Environmental Quality Board
P.O. Box 11488
Santurce, PR 00910
(809) 722-0077

Rhode Island
Department of Environmental Management
Division of Air and Hazardous Materials
291 Promenade Street
Providence, RI 02908-5767
Attn: Toxic Release Inventory
(401) 277-2808

South Carolina
Mr. Ron Kinney
Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201
(803) 734-5200

South Dakota
Mr. Brad Schultz
South Dakota Emergency Response Commission
Department of Water and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181
(605) 773-3153

Tennessee
Mr. Lacy Suiter, Chairman
Tennessee Emergency Response Commission
Director, Tennessee Emergency Management Agency
3041 Sidco Drive
Nashville, TN 37204-1502
1-800-262-3300 (In Tennessee)
1-800-258-3300 (Out of state)

Texas
Mr. David Barker, Supervisor
Emergency Response Unit
Texas Water Commission
P.O. Box 13087 - Capitol Station
Austin, TX 78711-3087
(512) 463-8527

Utah
Mr. Neil Taylor
Utah Hazardous Chemical Emergency Response Commission
Utah Division of Environmental Health
288 North 1460 West
P.O. Box 16690
Salt Lake City, UT 84116-0690
(801) 538-6121

Vermont
Dr. Jan Carney, Deputy Commissioner
Department of Health
60 Main Street
P.O. Box 70
Burlington, VT 05402
(802) 863-7281

Virginia
Mr. Wayne Halbleib, Director
Virginia Emergency Response Council
Department of Waste Management
James Monroe Building
18th Floor
101 North 14th Street
Richmond, VA 23219
(804) 225-2513

Virgin Islands
Mr. Allan D. Smith, Commissioner
Department of Planning and Natural Resources
U.S. Virgin Islands Emergency Response Commission
Title III
179 Altona and Welgunst
Charlotte Amalie
St. Thomas, VI 00802
(809) 774-3320

Washington
Washington Emergency Response Commission
Department of Community Development
Mail Stop GH-51
9th & Columbia Building
Olympia, WA 98504
(800) 633-7585

West Virginia
Mr. William Pinnell
Office of Environmental Health Services
West Virginia Department of Health
1800 East Washington Street East
Room 507
Charleston, WV 25305
(304) 348-2967

Wisconsin
Wisconsin Department of Natural Resources
Office of Technical Services TS-2
P.O. Box 7921
Madison, WI 53707
(608) 266-9255
Attn: Russ Dunst

Wyoming
Mr. Ed Usui, Coordinator
Wyoming Emergency Response Commission
Wyoming Emergency Management Agency
Comprehensive Emergency Management
5500 Bishop Blvd.
Cheyenne, WY 82003
(307) 777-7566

[Notes: (1) If an Indian tribe has chosen to act independently of a state for the purpose of section 313 reporting, facilities located within that Indian community should report to the tribal SERC, or until the SERC is established, the Chief Executive Officer of the Indian tribe, as well as to EPA; (2) Facilities located within the Territories of the Pacific should send a report to the Chief Administrator of the appropriate territory, as well as to EPA.]

APPENDIX F

SECTION 313 EPA REGIONAL CONTACTS

Region 1

Pesticides & Toxics Branch
USEPA Region 1 (APT2311)
JFK Federal Building
Boston, MA 02203
(617) 565-3273

Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont

Region 2

Pesticides & Toxics Branch
USEPA Region 2 (MS240)
Woodbridge Avenue, Building 209
Edison, NJ 08837
(201) 906-6890

New Jersey, New York, Puerto Rico, Virgin Islands

Region 3

Toxics & Pesticides Branch
USEPA Region 3 (3HW42)
841 Chestnut Street
Philadelphia, PA 19107
(215) 597-1260

Delaware, Maryland, Pennsylvania, Virginia, West Virginia, District of Columbia

Region 4

Pesticides & Toxics Substances Branch
USEPA Region 4
345 Courtland Street
Atlanta, GA 30365
(404) 347-5053

Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

Region 5

Pesticides & Toxic Substances Branch
USEPA Region 5 (5SPT-7)
536 South Dearborn Street
Chicago, IL 60604
(312) 353-5867

Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

Region 6

Pesticides & Toxic Substances Branch
USEPA Region 6 (6TPT)
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 655-7244

Arkansas, Louisiana, New Mexico, Oklahoma, Texas

Region 7

Office of Congressional and Intergovernmental Liaison
USEPA Region 7 (CIGL)
726 Minnesota Avenue
Kansas City, KS 66101
(913) 236-2806

Iowa, Kansas, Missouri, Nebraska

Region 8

Toxic Substances Branch
USEPA Region 8 (8AT-TS)
999 18th Street
Denver, CO 80202-2405
(303) 293-1730

Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming

Region 9

Pesticides & Toxics Branch
USEPA Region 9 (T-5-3)
215 Fremont Street
San Francisco, CA 94105
(415) 974-7054

Arizona, California, Hawaii, Nevada, American Samoa, Guam, Commonwealth of the Northern Mariana Islands

Region 10

Pesticides & Toxic Substances Branch
USEPA Region 10 (AT083)
1200 Sixth Avenue
Seattle, WA 98101
(206) 442-1091

Alaska, Idaho, Oregon, Washington

APPENDIX G

SECTION 313 FINAL RULE

[Note: Subparts D and E of the regulatory text are not reproduced here because they appear in substance elsewhere in this document.]

PART 372—TOXIC CHEMICAL RELEASE REPORTING; COMMUNITY RIGHT-TO-KNOW

Subpart A—General Provisions

Sec.
372.1 Scope and purpose.
372.3 Definitions.
372.5 Persons subject to this Part.
372.10 Recordkeeping.
372.18 Compliance and enforcement.

Subpart B—Reporting Requirements

372.22 Covered facilities for toxic chemical release reporting.
372.25 Thresholds for reporting.
372.30 Reporting requirements and schedule for reporting.
372.38 Exemptions.

Subpart C—Supplier Notification Requirements

372.45 Notification about toxic chemicals.

Subpart D—Specific Toxic Chemical Listings

372.65 Chemicals and chemical categories to which this Part applies.

Subpart E—Forms and Instructions

372.85 Toxic chemical release reporting form and instructions.

Authority: 42 U.S.C. 11013. 11028.

Subpart A—General Provisions

§ 372.1 Scope and purpose.

This Part sets forth requirements for the submission of information relating to the release of toxic chemicals under section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The information collected under this Part is intended to inform the general public and the communities surrounding covered facilities about releases of toxic chemicals, to assist research, to aid in the development of regulations, guidelines, and standards, and for other purposes. This Part also sets forth requirements for suppliers to notify persons to whom they distribute mixtures or trade name products containing toxic chemicals that they contain such chemicals.

§ 372.3 Definitions.

Terms defined in sections 313(b)(1)(c) and 329 of Title III and not explicitly defined herein are used with the meaning given in Title III. For the purpose of this Part:

"Acts" means Title III.

"Article" means a manufactured item: (1) Which is formed to a specific shape or design during manufacture: (2) which has end use functions dependent in whole or in part upon its shape or design during end use: and (3) which does not release a toxic chemical under normal conditions of processing or use of that item at the facility or establishments.

"Customs territory of the United States" means the 50 States, the District of Columbia, and Puerto Rico.

"EPA" means the United States Environmental Protection Agency.

"Establishment" means an economic unit, generally at a single physical location, where business is conducted or where services or industrial operations are performed.

"Facility" means all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with such person). A facility may contain more than one establishment.

"Full-time employee" means 2,000 hours per year of full-time equivalent employment. A facility would calculate the number of full-time employees by totaling the hours worked during the calendar year by all employees, including contract employees, and dividing that total by 2,000 hours.

"Import" means to cause a chemical to be imported into the customs territory of the United States. For purposes of this definition, "to cause" means to intend that the chemical be imported and to control the identity of the imported chemical and the amount to be imported.

"Manufacture" means to produce, prepare, import, or compound a toxic chemical. Manufacture also applies to a toxic chemical that is produced coincidentally during the manufacture, processing, use, or disposal of another chemical or mixture of chemicals, including a toxic chemical that is separated from that other chemical or mixture of chemicals as a byproduct, and a toxic chemical that remains in that other chemical or mixture of chemicals as an impurity.

"Mixture" means any combination of two or more chemicals, if the combination is not, in whole or in part, the result of a chemical reaction. However, if the combination was produced by a chemical reaction but could have been produced without a chemical reaction, it is also treated as a mixture. A mixture also includes any combination which consists of a chemical and associated impurities.

"Otherwise use" or "use" means any use of a toxic chemical that is not covered by the terms "manufacture" or "process" and includes use of a toxic chemical contained in a mixture or trade name product. Relabeling or redistributing a container of a toxic chemical where no repackaging of the toxic chemical occurs does not constitute use or processing of the toxic chemical.

"Process" means the preparation of a toxic chemical, after its manufacture, for distribution in commerce:

(1) In the same form or physical state as, or in a different form or physical state from, that in which it was received by the person so preparing such substance, or

(2) As part of an article containing the toxic chemical. Process also applies to the processing of a toxic chemical contained in a mixture or trade name product.

"Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles) of any toxic chemical.

"Senior management official" means an official with management responsibility for the person or persons completing the report, or the manager of environmental programs for the facility or establishments, or for the corporation owning or operating the facility or establishments responsible for certifying similar reports under other environmental regulatory requirements.

"Title III" means Title III of the Superfund Amendments and Reauthorization Act of 1986, also titled the Emergency Planning and Community Right-To-Know Act of 1986.

"Toxic chemical" means a chemical or chemical category listed in § 372.65.

"Trade name product" means a chemical or mixture of chemicals that is distributed to other persons and that incorporates a toxic chemical component that is not identified by the applicable chemical name or Chemical

Abstracts Service Registry number listed in § 372.65.

§ 372.5 Persons subject to this Part.

Owners and operators of facilities described in §§ 372.22 and 372.45 are subject to the requirements of this Part. If the owner and operator of a facility are different persons, only one need report under § 372.17 or provide a notice under § 372.45 for each toxic chemical in a mixture or trade name product distributed from the facility. However, if no report is submitted or notice provided, EPA will hold both the owner and the operator liable under section 325(c) of Title III, except as provided in §§ 372.38(e) and 372.45(g).

§ 372.10 Recordkeeping.

(a) Each person subject to the reporting requirements of this Part must retain the following records for a period of 3 years from the date of the submission of a report under § 372.30:

(1) A copy of each report submitted by the person under § 372.30.

(2) All supporting materials and documentation used by the person to make the compliance determination that the facility or establishments is a covered facility under § 372.22 or § 372.45.

(3) Documentation supporting the report submitted under § 372.30 including:

(i) Documentation supporting any determination that a claimed allowable exemption under § 372.38 applies.

(ii) Data supporting the determination of whether a threshold under § 372.25 applies for each toxic chemical.

(iii) Documentation supporting the calculations of the quantity of each toxic chemical released to the environment or transferred to an off-site location.

(iv) Documentation supporting the use indications and quantity on site reporting for each toxic chemical, including dates of manufacturing, processing, or use.

(v) Documentation supporting the basis of estimate used in developing any release or off-site transfer estimates for each toxic chemical.

(vi) Receipts or manifests associated with the transfer of each toxic chemical in waste to off-site locations.

(vii) Documentation supporting reported waste treatment methods, estimates of treatment efficiencies, ranges of influent concentration to such treatment, the sequential nature of treatment steps, if applicable, and the actual operating data, if applicable, to support the waste treatment efficiency estimate for each toxic chemical.

(b) Each person subject to the notification requirements of this part must retain the following records for a period of 3 years from the date of the submission of a notification under § 372.45.

(1) All supporting materials and documentation used by the person to determine whether a notice is required under § 372.45.

(2) All supporting materials and documentation used in developing each required notice under § 372.45 and a copy of each notice.

(c) Records retained under this section must be maintained at the facility to which the report applies or from which a notification was provided. Such records must be readily available for purposes of inspection by EPA.

§ 372.18 Compliance and enforcement.

Violators of the requirements of this Part shall be liable for a civil penalty in an amount not to exceed $25,000 each day for each violation as provided in section 325(c) of Title III.

Subpart B—Reporting Requirements

§ 372.22 Covered facilities for toxic chemical release reporting.

A facility that meets all of the following criteria for a calendar year is a covered facility for that calendar year and must report under § 372.30.

(a) The facility has 10 or more full-time employees.

(b) The facility is in Standard Industrial Classification Codes 20 through 39 (as in effect on January 1, 1987) by virtue of the fact that it meets one of the following criteria:

(1) The facility is an establishment with a primary SIC code of 20 through 39.

(2) The facility is a multi-establishment complex where all establishments have a primary SIC code of 20 through 39.

(3) The facility is a multi-establishment complex in which one of the following is true:

(i) The sum of the value of products shipped and/or produced from those establishments that have a primary SIC code of 20 through 39 is greater than 50 percent of the total value of all products shipped and/or produced from all establishments at the facility.

(ii) One establishment having a primary SIC code of 20 through 39 contributes more in terms of value of products shipped and/or produced than any other establishment within the facility.

(c) The facility manufactured (including imported), processed, or otherwise used a toxic chemical in excess of an applicable threshold quantity of that chemical set forth in § 372.25.

§ 372.25 Thresholds for reporting.

The threshold amounts for purposes of reporting under § 372.30 for toxic chemicals are as follows:

(a) With respect to a toxic chemical manufactured (including imported) or processed at a facility during the following calendar years:

1987—75,000 pounds of the chemical manufactured or processed for the year.

1988—50,000 pounds of the chemical manufactured or processed for the year.

1989 and thereafter—25,000 pounds of the chemical manufactured or processed for the year.

(b) With respect to a chemical otherwise used at a facility, 10,000 pounds of the chemical used for the applicable calendar year.

(c) With respect to activities involving a toxic chemical at a facility, when more than one threshold applies to the activities, the owner or operator of the facility must report if it exceeds any applicable threshold and must report on all activities at the facility involving the chemical, except as provided in § 372.38.

(d) When a facility manufactures, processes, or otherwise uses more than one member of a chemical category listed in § 372.65(c), the owner or operator of the facility must report if it exceeds any applicable threshold for the total volume of all the members of the category involved in the applicable activity. Any such report must cover all activities at the facility involving members of the category.

(e) A facility may process or otherwise use a toxic chemical in a recycle/reuse operation. To determine whether the facility has processed or used more than an applicable threshold of the chemical, the owner or operator of the facility shall count the amount of the chemical added to the recycle/reuse operation during the calendar year. In particular, if the facility starts up such an operation during a calendar year, or in the event that the contents of the whole recycle/reuse operation are replaced in a calendar year, the owner or operator of the facility shall also count the amount of the chemical placed into the system at these times.

(f) A toxic chemical may be listed in § 372.65 with the notation that only persons who manufacture the chemical, or manufacture it by a certain method, are required to report. In that case, only owners or operators of facilities that manufacture that chemical as described in § 372.65 in excess of the threshold applicable to such manufacture in § 372.25 are required to report. In completing the reporting form, the owner or operator is only required to account for the quantity of the chemical so manufactured and releases associated with such manufacturing, but not releases associated with subsequent processing or use of the chemical at that facility. Owners and operators of facilities that solely process or use such a chemical are not required to report for that chemical.

(g) A toxic chemical may be listed in § 372.65 with the notation that it is in a specific form (e.g., fume or dust, solution, or friable) or of a specific color (e.g., yellow or white). In that case, only owners or operators of facilities that manufacture, process, or use that chemical in the form or of the color, specified in § 372.65 in excess of the threshold applicable to such activity in § 372.25 are required to report. In completing the reporting form, the owner or operator is only required to account for the quantity of the chemical manufactured, processed, or used in the form or color specified in § 372.65 and for releases associated with the chemical in that form or color. Owners or operators of facilities that solely manufacture, process, or use such a chemical in a form or color other than those specified by § 372.65 are not required to report for that chemical.

(h) Metal compound categories are listed in § 372.65(c). For purposes of determining whether any of the thresholds specified in § 372.25 are met for metal compound category, the owner or operator of a facility must make the threshold determination based on the total amount of all members of the metal compound category manufactured, processed, or used at the facility. In completing the release portion of the reporting form for releases of the metal compounds, the owner or operator is only required to account for the weight of the parent metal released. Any contribution to the mass of the release attributable to other portions of each compound in the category is excluded.

§ 372.30 Reporting requirements and schedule for reporting.

(a) For each toxic chemical known by the owner or operator to be manufactured (including imported), processed, or otherwise used in excess of an applicable threshold quantity in § 372.25 at its covered facility described in § 372.22 for a calendar year, the owner or operator must submit to EPA and to the State in which the facility is located a completed EPA Form R (EPA Form 9350–1) in accordance with the instructions in Subpart E.

(b)(1) The owner or operator of a covered facility is required to report as described in paragraph (a) of this section on a toxic chemical that the owner or operator knows is present as a component of a mixture or trade name product which the owner or operator receives from another person, if that chemical is imported, processed, or otherwise used by the owner or operator in excess of an applicable threshold quantity in § 372.25 at the facility as part of that mixture or trade name product.

(2) The owner or operator knows that a toxic chemical is present as a component of a mixture or trade name product (i) if the owner or operator knows or has been told the chemical identity or Chemical Abstracts Service Registry Number of the chemical and the identity or Number corresponds to an identity or Number in § 372.65, or (ii) if the owner or operator has been told by the supplier of the mixture or trade name product that the mixture or trade name product contains a toxic chemical subject to section 313 of the Act or this Part.

(3) To determine whether a toxic chemical which is a component of a mixture or trade name product has been imported, processed, or otherwise used in excess of an applicable threshold in § 372.25 at the facility, the owner or operator shall consider only the portion of the mixture or trade name product that consists of the toxic chemical and that is imported, processed, or otherwise used at the facility, together with any other amounts of the same toxic chemical that the owner or operator manufactures, imports, processes, or otherwise uses at the facility as follows:

(i) If the owner or operator knows the specific chemical identity of the toxic chemical and the specific concentration at which it is present in the mixture or trade name product, the owner or operator shall determine the weight of the chemical imported, processed, or otherwise used as part of the mixture or trade name product at the facility and shall combine that with the weight of the toxic chemical manufactured (including imported) processed, or otherwise used at the facility other than as part of the mixture or trade name product. After combining these amounts, if the owner or operator determines that the toxic chemical was manufactured, processed, or otherwise used in excess of an applicable threshold in § 372.25, the owner or operator shall report the specific chemical identity and all releases of the toxic chemical on EPA Form R in accordance with the instructions in Subpart E.

(ii) If the owner or operator knows the specific chemical identity of the toxic chemical and does not know the specific concentration at which the chemical is present in the mixture or trade name product, but has been told the upper bound concentration of the chemical in the mixture or trade name product, the owner or operator shall assume that the toxic chemical is present in the mixture or trade name product at the upper bound concentration, shall determine whether the chemical has been manufactured, processed, or otherwise used at the facility in excess of an applicable threshold as provided in paragraph (b)(3)(i) of this section, and shall report as provided in paragraph (b)(3)(i) of this section.

(iii) If the owner or operator knows the specific chemical identity of the toxic chemical, does not know the specific concentration at which the chemical is present in the mixture or trade name product, has not been told the upper bound concentration of the chemical in the mixture or trade name product, and has not otherwise developed information on the composition of the chemical in the mixture or trade name product, then the owner or operator is not required to factor that chemical in that mixture or trade name product into threshold and release calculations for that chemical.

(iv) If the owner or operator has been told that a mixture or trade name product contains a toxic chemical, does not know the specific chemical identity of the chemical and knows the specific concentration at which it is present in the mixture or trade name product, the owner or operator shall determine the weight of the chemical imported, processed, or otherwise used as part of the mixture or trade name product at the facility. Since the owner or operator does not know the specific identity of the toxic chemical, the owner or operator shall make the threshold determination only for the weight of the toxic chemical in the mixture or trade name product. If the owner or operator determines that the toxic chemical was imported, processed, or otherwise used as part of the mixture or trade name product in excess of an applicable threshold in § 372.25, the owner or operator shall report the generic chemical name of the toxic chemical, or a trade name if the generic chemical name is not known, and all releases of the toxic chemical on EPA Form R in accordance with the instructions in Subpart E.

(v) If the owner or operator has been told that a mixture or trade name product contains a toxic chemical, does not know the specific chemical identity of the chemical, and does not know the specific concentration at which the chemical is present in the mixture or trade name product, but has been told the upper bound concentration of the chemical in the mixture or trade name product, the owner or operator shall assume that the toxic chemical is present in the mixture or trade name product at the upper bound concentration, shall determine whether the chemical has been imported, processed, or otherwise used at the facility in excess of an applicable threshold as provided in paragraph (b)(3)(iv) of this section, and shall report as provided in paragraph (b)(3)(iv) of this section.

(vi) If the owner or operator has been told that a mixture or trade name product contains a toxic chemical, does not know the specific chemical identity of the chemical, does not know the specific concentration at which the chemical is present in the mixture or trade name product, including information they have themselves developed, and has not been told the upper bound concentration of the chemical in the mixture or trade name product, the owner or operator is not required to report with respect to that toxic chemical.

(c) A covered facility may consist of more than one establishment. The owner or operator of such a facility at which a toxic chemical was manufactured (including imported), processed, or otherwise used in excess of an applicable threshold may submit a separate Form R for each establishment or for each group of establishments within the facility to report the activities involving the toxic chemical at each establishment or group of establishments, provided that activities involving that toxic chemical at all the establishments within the covered facility are reported. If each establishment or group of establishments files separate reports then for all other chemicals subject to reporting at that facility they must also submit separate reports. However, an establishment or group of establishments does not have to submit a report for a chemical that is not manufactured (including imported), processed, otherwise used, or released at that establishment or group of establishments.

(d) Each report under this section for activities involving a toxic chemical that occured during a calendar year at a covered facility must be submitted on or before July 1 of the next year. The first such report for calendar year 1987 activities must be submitted on of before July 1, 1988.

(e) For reports applicable to activities for calendar years 1987, 1988, and 1989 only, the owner or operator of a covered facility may report releases of a specific toxic chemical to an environmental medium, or transfers of wastes containing a specific toxic chemical to an off-site location, of less than 1,000 pounds using the ranges provided in the form and instructions in Subpart E. For reports applicable to activities in calendar year 1990 and beyond, these ranges may not be used.

§ 372.38 Exemptions.

(a) *De minimis concentrations of a toxic chemical in a mixture.* If a toxic chemical is present in a mixture of chemicals at a covered facility and the toxic chemical is in a concentration in the mixture which is below 1 percent of the mixture, or 0.1 percent of the mixture in the case of a toxic chemical which is a carcinogen as defined in 29 CFR 1910.1200(d)(4), a person is not required to consider the quantity of the toxic chemical present in such mixture when determining whether an applicable threshold has been met under § 372.25 or determining the amount of release to be reported under § 372.30. This exemption applies whether the person received the mixture from another person or the person produced the mixture, either by mixing the chemicals involved or by causing a chemical reaction which resulted in the creation of the toxic chemical in the mixture. However, this exemption applies only to the quantity of the toxic chemical present in the mixture. If the toxic chemical is also manufactured (including imported), processed, or otherwise used at the covered facility other than as part of the mixture or in a mixture at higher concentrations, in excess of an applicable threshold quantity set forth in § 372.25, the person is required to report under § 372.30.

(b) *Articles.* If a toxic chemical is present in an article at a covered facility, a person is not required to consider the quantity of the toxic chemical present in such article when determining whether an applicable threshold has been met under § 372.25 or determining the amount of release to be reported under § 372.30. This exemption applies whether the person received the article from another person or the person produced the article. However, this exemption applies only to the quantity of the toxic chemical present in the article. If the toxic chemical is manufactured (including imported), processed, or otherwise used at the covered facility other than as part of the article, in excess of an applicable threshold quantity set forth in § 372.25, the person is required to report under § 372.30. Persons potentially subject to this exemption should carefully review the definitions of "article" and "release" in § 372.3. If a release of a toxic chemical occurs as a result of the processing or use of an item at the facility, that item does not meet the definition of "article."

(c) *Uses.* If a toxic chemical is used at a covered facility for a purpose described in this paragraph (c), a person is not required to consider the quantity of the toxic chemical used for such purpose when determining whether an applicable threshold has been met under § 372.25 or determining the amount of releases to be reported under § 372.30. However, this exemption only applies to the quantity of the toxic chemical used for the purpose described in this paragraph (c). If the toxic chemical is also manufactured (including imported), processed, or otherwise used at the covered facility other than as described in this paragraph (c), in excess of an applicable threshold quantity set forth in § 372.25, the person is required to report under § 372.30.

(1) Use as a structural component of the facility.

(2) Use of products for routine janitorial or facility grounds maintenance. Examples include use of janitorial cleaning supplies, fertilizers, and pesticides similar in type or concentration to consumer products.

(3) Personal use by employees or other persons at the facility of foods, drugs, cosmetics, or other personal items containing toxic chemicals, including supplies of such products within the facility such as in a facility operated cafeteria, store, or infirmary.

(4) Use of products containing toxic chemicals for the purpose of maintaining motor vehicles operated by the facility.

(5) Use of toxic chemicals present in process water and non-contact cooling water as drawn from the environment or from municipal sources, or toxic chemicals present in air used either as compressed air or as part of combustion.

(d) *Activities in laboratories.* If a toxic chemical is manufactured, processed, or used in a laboratory at a covered facility under the supervision of a technically qualified individual as defined in § 720.3(ee) of this title, a person is not required to consider the quantity so manufactured, processed, or used when determining whether an applicable threshold has been met under § 372.25 or determining the amount of release to be reported under § 372.30. This exemption does not apply in the following cases:

(1) Specialty chemical production.

(2) Manufacture, processing, or use of toxic chemicals in pilot plant scale operations.

(3) Activities conducted outside the laboratory.

(e) *Certain owners of leased property.* The owner of a covered facility is not subject to reporting under § 372.30 if such owner's only interest in the facility is ownership of the real estate upon which the facility is operated. This exemption applies to owners of facilities such as industrial parks, all or part of which are leased to persons who operate establishments within SIC code 20 through 39 where the owner has no other business interest in the operation of the covered facility.

(f) *Reporting by certain operators of establishments on leased property such as industrial parks.* If two or more persons, who do not have any common corporate or business interest (including common ownership or control), operate separate establishments within a single facility, each such person shall treat the establishments it operates as a facility for purposes of this Part. The determinations in § 372.22 and § 372.25 shall be made for those establishments. If any such operator determines that its establishment is a covered facility under § 372.22 and that a toxic chemical has been manufactured (including imported), processed, or otherwise used at the establishment in excess of an applicable threshold in § 372.25 for a calendar year, the operator shall submit a report in accordance with § 372.30 for the establishment. For purposes of this paragraph (f), a common corporate or business interest includes ownership, partnership, joint ventures, ownership of a controlling interest in one person by the other, or ownership of a controlling interest in both persons by a third person.

Subpart C—Supplier Notification Requirement

§ 372.45 Notification about toxic chemicals.

(a) Except as provided in paragraphs (c), (d), and (e) of this section and § 372.65, a person who owns or operates a facility or establishment which:

(1) Is in Standard Industrial Classification codes 20 through 39 as set forth in paragraph (b) of § 372.22,

(2) Manufactures (including imports) or processes a toxic chemical, and

(3) Sells or otherwise distributes a mixture or trade name product containing the toxic chemical, to (i) a facility described in § 372.22, or (ii) to a person who in turn may sell or otherwise distributes such mixture or trade name product to a facility described in § 372.22(b), must notify each person to whom the mixture or trade name product is sold or otherwise distributed from the facility or establishment in accordance with paragraph (b) of this section.

(b) The notification required in paragraph (a) of this section shall be in writing and shall include:

(1) A statement that the mixture or trade name product contains a toxic chemical or chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

(2) The name of each toxic chemical, and the associated Chemical Abstracts Service registry number of each chemical if applicable, as set forth in § 372.65.

(3) The percent by weight of each toxic chemical in the mixture or trade name product.

(c) Notification under this section shall be provided as follows:

(1) For a mixture or trade name product containing a toxic chemical listed in § 373.65 with an effective date of January 1, 1987, the person shall provide the written notice described in paragraph (b) of this section to each recipient of the mixture or trade name product with at least the first shipment of each mixture or trade name product to each recipient in each calendar year beginning January 1, 1989.

(2) For a mixture or trade name product containing a toxic chemical listed in § 372.65 with an effective date of January 1, 1989 or later, the person shall provide the written notice described in paragraph (b) of this section to each recipient of the mixture or trade name product with at least the first shipment of the mixture or trade name product to each recipient in each calendar year beginning with the applicable effective date.

(3) If a person changes a mixture or trade name product for which notification was previously provided under paragraph (b) of this section by adding a toxic chemical, removing a toxic chemical, or changing the percent by weight of a toxic chemical in the mixture or trade name product, the person shall provide each recipient of the changed mixture or trade name product a revised notification reflecting the change with the first shipment of the changed mixture or trade name product to the recipient.

(4) If a person discovers (i) that a mixture or trade name product previously sold or otherwise distributed to another person during the calendar year of the discovery contains one or more toxic chemicals and (ii), that any notification providied to such other persons in that calendar year for the mixture or trade name product either did not properly identify any of the toxic chemicals or did not accurately present the percent by weight of any of the toxic chemicals in the mixture or trade name product, the person shall provide a new notification to the recipient within 30 days of the discovery which contains the information described in paragraph (b) of this section and identifies the prior shipments of the mixture or product in that calendar year to which the new notification applies.

(5) If a Material Safety Data Sheet (MSDS) is required to be prepared and distributed for the mixture or trade name product in accordance with 29 CFR 1910.1200, the notification must be attached to or otherwise incorporated into such MSDS. When the notification is attached to the MSDS, the notice must contain clear instructions that the notifications must not be detached from the MSDS and that any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

(d) Notifications are not required in the following instances:

(1) If a mixture or trade name product contains no toxic chemical in excess of the applicable de minimis concentration as specified in § 372.38(a).

(2) If a mixture or trade name product is one of the following:

(i) An "article" as defined in § 372.3

(ii) Foods, drugs, cosmetics, alcoholic beverages, tobacco, or tobacco products packaged for distribution to the general public.

(iii) Any consumer product as the term is defined in the Consumer Product Safety Act (15 U.S.C. 1251 *et seq.*) packaged for distribution to the general public.

(e) If the person considers the specific identity of a toxic chemical in a mixture or trade name product to be a trade secret under provisions of 29 CFR 1910.1200, the notice shall contain a generic chemical name that is descriptive of that toxic chemical.

(f) If the person considers the specific percent by weight composition of a toxic chemical in the mixture or trade name product to be a trade secret under applicable State law or under the Restatement of Torts section 757, comment b, the notice must contain a statement that the chemical is present at a concentration that does not exceed a specified upper bound concentration value. For example, a mixture contains 12 percent of a toxic chemical. However, the supplier considers the specific concentration of the toxic chemical in

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the product to be a trade secret. The notice would indicate that the toxic chemical is present in the mixture in a concentration of no more than 15 percent by weight. The upper bound value chosen must be no larger than necessary to adequately protect the trade secret.

(g) A person is not subject to the requirements of this section to the extent the person does not know that the facility or establishment(s) is selling or otherwise distributing a toxic chemical to another person in a mixture or trade name product. However, for purposes of this section, a person has such knowledge if the person receives a notice under this section from a supplier of a mixture or trade name product and the person in turn sells or otherwise distributes that mixture or trade name product to another person.

(h) If two or more persons, who do not have any common corporate or business interest (including common ownership or control), as described in § 372.38(f), operate separate establishments within a single facility, each such persons shall treat the establishment(s) it operates as a facility for purposes of this section. The determination under paragraph (a) of this section shall be made for those establishments.

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Approval Expires: 01/91

(Important: Type or print; read instructions before completing form.)

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EPA U.S. Environmental Protection Agency

TOXIC CHEMICAL RELEASE INVENTORY REPORTING FORM

Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act

Public reporting burden for this collection of information is estimated to vary from 30 to 34 hours per response, with an average of 32 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch (PM-223), US EPA, 401 M St., SW, Washington, D.C. 20460 Attn: TRI Burden and to the Office of Information and Regulatory Affairs, Office of Management and Budget Paperwork Reduction Project (2070-0093), Washington, D.C. 20603.

EPA FORM **R**	**PART I.** **FACILITY IDENTIFICATION INFORMATION**	(This space for your optional use.)

1.	1.1 Are you claiming the chemical identity on page 3 trade secret? ☐ Yes (Answer question 1.2; Attach substantiation forms.) ☐ No (Do not answer 1.2; Go to question 1.3.)	1.2 If "Yes" in 1.1, is this copy: ☐ Sanitized ☐ Unsanitized	1.3 Reporting Year 19 ____

2. CERTIFICATION (Read and sign after completing all sections.)

I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on reasonable estimates using data available to the preparers of this report.

Name and official title of owner/operator or senior management official

Signature

Date signed

3. FACILITY IDENTIFICATION

3.1	Facility or Establishment Name	
	Street Address	
	City	County
	State	Zip Code

WHERE TO SEND COMPLETED FORMS:

1. U.S. ENVIRONMENTAL PROTECTION AGENCY
   P.O. BOX 70266
   WASHINGTON, DC 20024-0266
   ATTN: TOXIC CHEMICAL RELEASE INVENTORY
2. APPROPRIATE STATE OFFICE (See instructions Appendix E)

3.2	This report contains information for (Check one): a. ☐ An entire facility b. ☐ Part of a facility.					
3.3	Technical Contact			Telephone Number (include area code)		
3.4	Public Contact			Telephone Number (include area code)		
3.5	SIC Code (4 digit) a.	b.	c.	d.	e.	f.
3.6	Latitude Degrees	Minutes	Seconds	Longitude Degrees	Minutes	Seconds
3.7	Dun & Bradstreet Number(s) a.			b.		
3.8	EPA Identification Number(s) (RCRA I.D. No.) a.			b.		
3.9	NPDES Permit Number(s) a.			b.		
3.10	Receiving Streams or Water Bodies (enter one name per box) a.			b.		
	c.			d.		
	e.			f.		
3.11	Underground Injection Well Code (UIC) Identification Number(s) a.			b.		

4. PARENT COMPANY INFORMATION

4.1	Name of Parent Company	
4.2	Parent Company's Dun & Bradstreet Number	▨

EPA Form 9350-1 (1-89) Revised—Do not use previous versions.

☐ ☐

(Important: Type or print; read instructions before completing form.)

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EPA EPA FORM R PART II. OFF-SITE LOCATIONS TO WHICH TOXIC CHEMICALS ARE TRANSFERRED IN WASTES	(This space for your optional use.)

1. PUBLICLY OWNED TREATMENT WORKS (POTWs)

1.1 POTW name		**1.2 POTW name**	
Street Address		Street Address	
City	County	City	County
State	Zip	State	Zip

2. OTHER OFF-SITE LOCATIONS (DO NOT REPORT LOCATIONS TO WHICH WASTES ARE SENT ONLY FOR RECYCLING OR REUSE).

2.1 Off-site location name		**2.2 Off-site location name**	
EPA Identification Number (RCRA ID. No.)		EPA Identification Number (RCRA ID. No.)	
Street Address		Street Address	
City	County	City	County
State	Zip	State	Zip
Is location under control of reporting facility or parent company? [ ] Yes [ ] No		Is location under control of reporting facility or parent company? [ ] Yes [ ] No	

2.3 Off-site location name		**2.4 Off-site location name**	
EPA Identification Number (RCRA ID. No.)		EPA Identification Number (RCRA ID. No.)	
Street Address		Street Address	
City	County	City	County
State	Zip	State	Zip
Is location under control of reporting facility or parent company? [ ] Yes [ ] No		Is location under control of reporting facility or parent company? [ ] Yes [ ] No	
2.5 Off-site location name		**2.6 Off-site location name**	
EPA Identification Number (RCRA ID. No.)		EPA Identification Number (RCRA ID. No.)	
Street Address		Street Address	
City	County	City	County
State	Zip	State	Zip
Is location under control of reporting facility or parent company? [ ] Yes [ ] No		Is location under control of reporting facility or parent company? [ ] Yes [ ] No	
[ ] Check if additional pages of Part II are attached. How many? ______		▨	

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EPA FORM R
PART III. CHEMICAL-SPECIFIC INFORMATION

(This space for your optional use.)

1. CHEMICAL IDENTITY (Do not complete this section if you complete Section 2.)	
1.1	[Reserved]
1.2	CAS Number (Enter the number exactly as it appears on the 313 list. Enter NA if reporting a chemical category.)
1.3	Chemical or Chemical Category Name (Enter the name exactly as it appears on the 313 list.)
1.4	Generic Chemical Name (Complete only if Part I, Section 1.1 is checked "Yes." Generic name must be structurally descriptive.)

2.	MIXTURE COMPONENT IDENTITY (Do not complete this section if you complete Section 1.) Generic Chemical Name Provided by Supplier (Limit the name to a maximum of 70 characters (e.g., numbers, letters, spaces, punctuation).)

3. ACTIVITIES AND USES OF THE CHEMICAL AT THE FACILITY (Check all that apply.)

3.1	Manufacture the chemical:	a. [ ] Produce b. [ ] Import	If produce or import: c. [ ] For on-site use/processing e. [ ] As a byproduct	d. [ ] For sale/distribution f. [ ] As an impurity
3.2	Process the chemical:	a. [ ] As a reactant d. [ ] Repackaging only	b. [ ] As a formulation component	c. [ ] As an article component
3.3	Otherwise use the chemical:	a. [ ] As a chemical processing aid	b. [ ] As a manufacturing aid	c. [ ] Ancillary or other use

4. MAXIMUM AMOUNT OF THE CHEMICAL ON-SITE AT ANY TIME DURING THE CALENDAR YEAR

☐☐ (enter code)

5. RELEASES OF THE CHEMICAL TO THE ENVIRONMENT ON-SITE

You may report releases of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)		A. Total Release (lbs/yr) A.1 Reporting Ranges 0 1-499 500-999	A.2 Enter Estimate	B. Basis of Estimate (enter code)	C. % From Stormwater
5.1 Fugitive or non-point air emissions	5.1a	[ ] [ ] [ ]		5.1b ☐	
5.2 Stack or point air emissions	5.2a	[ ] [ ] [ ]		5.2b ☐	
5.3 Discharges to receiving streams or water bodies 5.3.1 ☐	5.3.1a	[ ] [ ] [ ]		5.3.1b ☐	5.3.1c
(Enter letter code from Part I Section 3.10 for stream(s) in the box provided.) 5.3.2 ☐	5.3.2a	[ ] [ ] [ ]		5.3.2b ☐	5.3.2c
5.3.3 ☐	5.3.3a	[ ] [ ] [ ]		5.3.3b ☐	5.3.3c
5.4 Underground injection	5.4a	[ ] [ ] [ ]		5.4b ☐	
5.5 Releases to land 5.5.1 On-site landfill	5.5.1a	[ ] [ ] [ ]		5.5.1b ☐	
5.5.2 Land treatment/application farming	5.5.2a	[ ] [ ] [ ]		5.5.2b ☐	
5.5.3 Surface impoundment	5.5.3a	[ ] [ ] [ ]		5.5.3b ☐	
5.5.4 Other disposal	5.5.4a	[ ] [ ] [ ]		5.5.4b ☐	

[ ] (Check if additional information is provided on Part IV-Supplemental Information.)

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(Important: Type or print; read instructions before completing form.)

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PART III. CHEMICAL-SPECIFIC INFORMATION (continued)

(This space for your optional use.)

6. TRANSFERS OF THE CHEMICAL IN WASTE TO OFF-SITE LOCATIONS

You may report transfers of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)	A. Total Transfers (lbs/yr)				B. Basis of Estimate	C. Type of Treatment/ Disposal
	A.1 Reporting Ranges 0	1-499	500-999	A.2 Enter Estimate	(enter code)	(enter code)
6.1.1 Discharge to POTW (enter location number from Part II, Section 1.) 1.☐	[ ]	[ ]	[ ]		6.1.1b ☐	▨
6.2.1 Other off-site location (enter location number from Part II, Section 2.) 2.☐	[ ]	[ ]	[ ]		6.2.1b ☐	6.2.1c M☐☐
6.2.2 Other off-site location (enter location number from Part II, Section 2.) 2.☐	[ ]	[ ]	[ ]		6.2.2b ☐	6.2.2c M☐☐
6.2.3 Other off-site location (enter location number from Part II, Section 2.) 2.☐	[ ]	[ ]	[ ]		6.2.3b ☐	6.2.3c M☐☐

[ ] (Check if additional information is provided on Part IV-Supplemental Information.)

7. WASTE TREATMENT METHODS AND EFFICIENCY

A. General Wastestream (enter code)	B. Treatment Method (enter code)	C. Range of Influent Concentration (enter code)	D. Sequential Treatment? (check if applicable)	E. Treatment Efficiency Estimate	F. Based on Operating Data? Yes	No
7.1a ☐	7.1b ☐☐☐	7.1c ☐	7.1d [ ]	7.1e %	7.1f [ ]	[ ]
7.2a ☐	7.2b ☐☐☐	7.2c ☐	7.2d [ ]	7.2e %	7.2f [ ]	[ ]
7.3a ☐	7.3b ☐☐☐	7.3c ☐	7.3d [ ]	7.3e %	7.3f [ ]	[ ]
7.4a ☐	7.4b ☐☐☐	7.4c ☐	7.4d [ ]	7.4e %	7.4f [ ]	[ ]
7.5a ☐	7.5b ☐☐☐	7.5c ☐	7.5d [ ]	7.5e %	7.5f [ ]	[ ]
7.6a ☐	7.6b ☐☐☐	7.6c ☐	7.6d [ ]	7.6e %	7.6f [ ]	[ ]
7.7a ☐	7.7b ☐☐☐	7.7c ☐	7.7d [ ]	7.7e %	7.7f [ ]	[ ]
7.8a ☐	7.8b ☐☐☐	7.8c ☐	7.8d [ ]	7.8e %	7.8f [ ]	[ ]
7.9a ☐	7.9b ☐☐☐	7.9c ☐	7.9d [ ]	7.9e %	7.9f [ ]	[ ]
7.10a ☐	7.10b ☐☐☐	7.10c ☐	7.10d [ ]	7.10e %	7.10f [ ]	[ ]

[ ] (Check if additional information is provided on Part IV-Supplemental Information.)

8. OPTIONAL INFORMATION ON WASTE MINIMIZATION

(Indicate actions taken to reduce the amount of the chemical being released from the facility. See the instructions for coded items and an explanation of what information to include.)

A. Type of Modification (enter code)	B. Quantity of the Chemical in Wastes Prior to Treatment or Disposal			C. Index	D. Reason for Action (enter code)
	Current reporting year (lbs/yr)	Prior year (lbs/yr)	Or percent change		
M☐	______	______	______ %	☐.☐	R☐

☐ ☐

(Important: Type or print; read instructions before completing form.)

EPA EPA FORM **R** **PART IV. SUPPLEMENTAL INFORMATION** Use this section if you need additional space for answers to questions in Part III. Number the lines used sequentially from lines in prior sections (e.g., 5.3.4, 6.1.2, 7.11)	(This space for your optional use.)

ADDITIONAL INFORMATION ON RELEASES OF THE CHEMICAL TO THE ENVIRONMENT ON-SITE (Part III, Section 5.3)

You may report releases of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)		A. Total Release (lbs/yr) A.1 Reporting Ranges 0 1-499 500-999	A.2 Enter Estimate	B. Basis of Estimate (enter code in box provided)	▨ C.% From Stormwater
5.3 Discharges to receiving streams or water bodies 5.3.___ ☐	5.3.___a	[ ] [ ] [ ]		5.3.___b ☐	5.3.___c
(Enter letter code from Part I Section 3.10 for stream(s) in the box provided.) 5.3.___ ☐	5.3.___a	[ ] [ ] [ ]		5.3.___b ☐	5.3.___c
5.3.___ ☐	5.3.___a	[ ] [ ] [ ]		5.3.___b ☐	5.3.___c

ADDITIONAL INFORMATION ON TRANSFERS OF THE CHEMICAL IN WASTE TO OFF-SITE LOCATIONS (Part III, Section 6)

You may report transfers of less than 1,000 lbs. by checking ranges under A.1. (Do not use both A.1 and A.2)	A. Total Transfers (lbs/yr) A.1 Reporting Ranges 0 1-499 500-999	A.2 Enter Estimate	B. Basis of Estimate (enter code in box provided)	C. Type of Treatment/ Disposal (enter code in box provided)
6.1.___ Discharge to POTW (enter location number from Part II, Section 1.) 1.☐	[ ] [ ] [ ]		6.1.___b ☐	▨
6.2.___ Other off-site location (enter location number from Part II, Section 2.) 2.☐	[ ] [ ] [ ]		6.2.___b ☐	6.2.___c M☐☐
6.2.___ Other off-site location (enter location number from Part II, Section 2.) 2.☐	[ ] [ ] [ ]		6.2.___b ☐	6.2.___c M☐☐
6.2.___ Other off-site location (enter location number from Part II, Section 2.) 2.☐	[ ] [ ] [ ]		6.2.___b ☐	6.2.___c M☐☐

ADDITIONAL INFORMATION ON WASTE TREATMENT METHODS AND EFFICIENCY (Part III, Section 7)

A. General Wastestream (enter code in box provided)	B. Treatment Method (enter code in box provided)	C. Range of Influent Concentration (enter code)	D. Sequential Treatment? (check if applicable)	E. Treatment Efficiency Estimate	F. Based on Operating Data? Yes No
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]
7.___a ☐	7.___b ☐☐☐	7.___c ☐	7.___d [ ]	7.___e %	7.___f [ ] [ ]